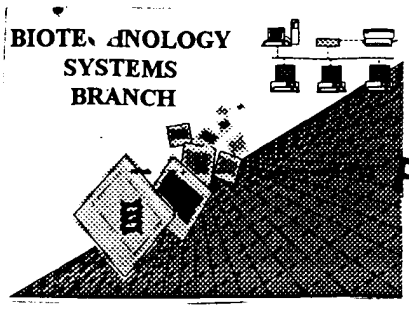

#3

RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/646,569

Source: 1645

Date Processed by STIC: 12/14/2000

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.
PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:
1) **INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,**
2) **TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY**

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.
PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax)
PATENTIN 3.0 e-mail help: patin30help@uspto.gov or phone 703-306-4119 (R. Wax)

TO **REDUCE** ERRORED SEQUENCE LISTINGS, **PLEASE** USE THE **CHECKER VERSION 3.0 PROGRAM**, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW:

Checker Version 3.0

The Checker Version 3.0 application is a state-of the-art Windows based software program employing a logical and intuitive user-interface to check whether a sequence listing is in compliance with format and content rules. Checker Version 3.0 works for sequence listings generated for the original version of 37 CFR §§1.821 – 1.825 effective October 1, 1990 (old rules) and the revised version (new rules) effective July 1, 1998 as well as World Intellectual Property Organization (WIPO) Standard ST.25.
Checker Version 3.0 replaces the previous DOS-based version of Checker, and is Y2K-compliant. Checker allows public users to check sequence listings in Computer Readable form (CRF) before submitting them to the United States Patent and Trademark Office (USPTO). Use of Checker prior to filing the sequence listing is expected to result in fewer errored sequence listings, thus saving time and money.

Checker Version 3.0 can be down loaded from the USPTO website at the following address:

http://www.uspto.gov/web/offices/pac/checker

Raw Sequence Listing Error Summary

ERROR DETECTED	SUGGESTED CORRECTION

SERIAL NUMBER: 09/646,569

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE

1 ____ Wrapped Nucleics
The number/text at the end of each line "wrapped" down to the next line.
This may occur if your file was retrieved in a word processor after creating it.
Please adjust your right margin to .3, as this will prevent "wrapping".

RECEIVED
DEC 27 2000
TECH CENTER 1600/2900

2 ____ Wrapped Aminos
The amino acid number/text at the end of each line "wrapped " down to the next line.
This may occur if your file was retrieved in a word processor after creating it.
Please adjust your right margin to .3, as this will prevent "wrapping".

3 ____ Incorrect Line Length
The rules require that a line not exceed 72 characters in length. This includes spaces.

4 ____ Misaligned Amino Acid Numbering
The numbering under each 5th amino acid is misaligned. This may be caused by the use of tabs between the numbering. It is recommended to delete any tabs and use spacing between the numbers.

RECEIVED
DEC 28 2000
TECH CENTER

5 ____ Non-ASCII
This file was not saved in ASCII (DOS) text, as required by the Sequence Rules.
Please ensure your subsequent submission is saved in ASCII text so that it can be processed

6 ____ Variable Length
Sequence(s) ____ contain n's or Xaa's which represented more than one residue.
As per the rules, each n or Xaa can only represent a single residue.
Please present the maximum number of each residue having variable length and indicate in the (ix) feature section that some may be missing.

7 ____ PatentIn ver. 2.0 "bug"
A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequence(s) _____. Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. **This applies primarily to the mandatory <220>-<223> sections for Artificial or Unknown sequences.**

8 ____ Skipped Sequences (OLD RULES)
Sequence(s) ____ missing. If intentional, please use the following format for each skipped sequence.
(2) INFORMATION FOR SEQ ID NO:X:
(i) SEQUENCE CHARACTERISTICS:(Do not insert any headings under "SEQUENCE CHARACTERISTICS")
(xi) SEQUENCE DESCRIPTION:SEQ ID NO:X:
This sequence is intentionally skipped

Please also adjust the "(iii) NUMBER OF SEQUENCES:" response to include the skipped sequence(s).

9 ____ Skipped Sequences (NEW RULES)
Sequence(s) ____ missing. If intentional, please use the following format for each skipped sequence.
<210> sequence id number
<400> sequence id number
000

10 ____ Use of n's or Xaa's (NEW RULES)
Use of n's and/or Xaa's have been detected in the Sequence Listing.
Use of <220> to <223> is MANDATORY if n's or Xaa's are present.
In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.

11 ____ Use of <213>Organism (NEW RULES)
Sequence(s) _____ are missing this mandatory field or its response.

12 ____ Use of <220>Feature (NEW RULES)
Sequence(s) ____ are missing the <220>Feature and associated headings.
Use of <220> to <223> is MANDATORY if <213>ORGANISM is "Artificial" or "Unknown"
Please explain source of genetic material in <220> to <223> section.
(See "Federal Register," 6/01/98, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of new Rules)

13 ____ PatentIn ver. 2.0 "bug"
Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other means to copy file to floppy disk.

RAW SEQUENCE LISTING
PATENT APPLICATION **US/09/646,569**

DATE: 12/14/2000
TIME: 08:51:07

Input Set: **I646569.RAW**

This Raw Listing contains the General Information Section and those Sequences containing ERRORS.

use English for a U.S. application

1 <110> metaGen Gesellschaft fr Genomforschung mbH
2 <120> Menschliche Nukleinsuresequenzen aus Brustgewebe
3 <130> 51572AWOM1XX24-P
4 <140> US/09/646,569
5 <141> 2000-09-20
6 <160> 209

ERRORED SEQUENCES FOLLOW

Only one space between amino acids. Per 1.823 (b) Sequence Rules "... each line should contain no more than 72 characters."

7 <210> 77
8 <211> 366
9 <212> PRT
10 <213> homo sapiens
11 <400> 77

global error - All text should be visible on page.

12	Ile	Ala	Ser	Ala	Arg	Leu	Glu	Glu	Val	Thr	Gly	Lys	Leu	Gln	Val	Al
13	1				5					10					15	
14	Arg	Asn	Leu	Ile	Met	Arg	Gly	Thr	Glu	Met	Cys	Pro	Lys	Ser	Glu	As
15				20					25					30		
16	Val	Trp	Leu	Glu	Ala	Ala	Arg	Leu	Gln	Pro	Gly	Asp	Thr	Ala	Lys	Al
17			35					40					45			
18	Val	Val	Ala	Gln	Ala	Val	Arg	His	Leu	Pro	Gln	Ser	Val	Arg	Ile	Ty
19		50					55					60				
20	Ile	Arg	Ala	Ala	Glu	Leu	Glu	Thr	Asp	Ile	Arg	Ala	Lys	Lys	Arg	Va
21	65					70					75				8	
22	Leu	Arg	Lys	Ala	Leu	Glu	His	Val	Pro	Asn	Ser	Val	Arg	Leu	Trp	Ly
E-Ck 23					**85**					**90**					**95**	
24	Ala	Ala	Val	Glu	Leu	Glu	Glu	Pro	Glu	Asp	Ala	Arg	Ile	Met	Leu	Se
25				100					105					110		
26	Arg	Ala	Val	Glu	Cys	Cys	Pro	Thr	Ser	Val	Glu	Leu	Trp	Leu	Ala	Le
27			115					120					125			
28	Ala	Arg	Leu	Glu	Thr	Tyr	Glu	Asn	Ala	Arg	Lys	Val	Leu	Asn	Lys	Al
29		130					135					140				
30	Arg	Glu	Asn	Ile	Pro	Thr	Asp	Arg	His	Ile	Trp	Ile	Thr	Ala	Ala	Ly
31	145					150					155				16	
32	Leu	Glu	Glu	Ala	Asn	Gly	Asn	Thr	Gln	Met	Val	Glu	Lys	Ile	Ile	As
E-Ck 33					**165**					**170**					**175**	
34	Arg	Ala	Ile	Thr	Ser	Leu	Arg	Ala	Asn	Gly	Val	Glu	Ile	Asn	Arg	Gl
35				180					185					190		
36	Gln	Trp	Ile	Gln	Asp	Ala	Glu	Glu	Cys	Asp	Arg	Ala	Gly	Ser	Val	Al
37			195					200					205			
38	Thr	Cys	Gln	Ala	Val	Met	Arg	Ala	Val	Ile	Gly	Ile	Gly	Ile	Glu	Gl
39		210					215					220				

Per 1.822(d)(2), "... a space provided between each amino acid"

same error

```
      40          Glu  Asp  Arg  Lys  His  Thr  Trp  Met  Glu  Asp  Ala  Asp  Ser  Cys  Val  Al
      41          225                    230                    235                         24
      42          His  Asn  Ala  Leu  Glu  Cys  Ala  Arg  Ala  Ile  Tyr  Ala  Tyr  Ala  Leu  Gl
E-->  43                         245                         250                         255
      44          Val  Phe  Pro  Ser  Lys  Lys  Ser  Val  Trp  Leu  Arg  Ala  Ala  Tyr  Phe  Gl
      45                    260                    265                         270
      46          Lys  Asn  His  Gly  Thr  Arg  Glu  Ser  Leu  Glu  Ala  Leu  Leu  Gln  Arg  Al
      47                    275                    280                         285
      48          Val  Ala  His  Cys  Pro  Lys  Ala  Glu  Val  Leu  Trp  Leu  Met  Gly  Ala  Ly
      49               290                         295                         300
      50          Ser  Lys  Trp  Leu  Ala  Gly  Asp  Val  Pro  Ala  Ala  Arg  Ser  Ile  Leu  Al
      51          305                    310                    315                         32
      52          Leu  Ala  Phe  Gln  Ala  Asn  Pro  Asn  Ser  Glu  Glu  Ile  Trp  Leu  Ala  Al
E-->  53                         325                         330                         335
      54          Val  Lys  Leu  Glu  Ser  Glu  Asn  Asp  Glu  Tyr  Glu  Arg  Ala  Arg  Arg  Le
      55                    340                    345                         350
      56          Leu  Ala  Lys  Ala  Arg  Thr  Val  Pro  Pro  Pro  Pro  Gly  Cys  Ser
      57                    355                    360                         365
```

```
      58  <210> 85
      59  <211> 116
      60  <212> PRT
      61  <213> homo sapiens
      62  <400> 85
```

same

```
      63          Gly  Thr  Arg  His  Pro  Leu  Ser  Leu  Ser  His  Lys  Pro  Ala  Lys  Lys  Il
      64            1                    5                         10                        15
      65          Asp  Val  Ala  Arg  Val  Thr  Phe  Asp  Leu  Tyr  Lys  Leu  Asn  Pro  Gln  As
      66                         20                         25                         30
      67          Phe  Ile  Gly  Cys  Leu  Asn  Val  Lys  Ala  Thr  Phe  Tyr  Asp  Thr  Tyr  Se
      68                    35                         40                         45
      69          Leu  Ser  Tyr  Asp  Leu  His  Cys  Cys  Gly  Ala  Lys  Arg  Ile  Met  Lys  Gl
      70               50                         55                         60
      71          Ala  Phe  Arg  Trp  Ala  Leu  Phe  Ser  Met  Gln  Ala  Thr  Gly  His  Val  Le
      72            65                         70                         75                         8
      73          Leu  Gly  Thr  Ser  Cys  Tyr  Leu  Gln  Gln  Leu  Leu  Asp  Ala  Thr  Glu  Gl
E-->  74                         85                         90                         95
      75          Gly  Gln  Pro  Pro  Lys  Gly  Lys  Ala  Ser  Ser  Leu  Ile  Pro  Thr  Cys  Le
      76                    100                    105                         110
      77          Lys  Ile  Leu  Gln
      78                    115
```

```
      79  <210> 89
      80  <211> 411
      81  <212> PRT
      82  <213> homo sapiens
      83  <400> 89
```

same

```
      84          Leu  Ala  Thr  His  Ser  Pro  Gln  Lys  Ser  His  Gln  Cys  Ala  His  Cys  Gl
      85            1                    5                         10                        15
      86          Lys  Thr  Phe  Asn  Arg  Lys  Asp  His  Leu  Lys  Asn  His  Leu  Gln  Thr  Hi
      87                         20                         25                         30
```

RAW SEQUENCE LISTING
PATENT APPLICATION **US/09/646,569**

Input Set: **I646569.RAW**

	88	Asp	Pro	Asn	Lys	Met	Ala	Phe	Gly	Cys	Glu	Glu	Cys	Gly	Lys	Lys	Ty
	89			35					40					45			
	90	Asn	Thr	Met	Leu	Gly	Tyr	Lys	Arg	His	Leu	Ala	Leu	His	Ala	Ala	Se
	91		50					55					60				
	92	Ser	Gly	Asp	Leu	Thr	Cys	Gly	Val	Cys	Ala	Leu	Glu	Leu	Gly	Ser	Th
	93	65					70					75					8
	94	Glu	Val	Leu	Leu	Asp	His	Leu	Lys	Ala	His	Ala	Glu	Glu	Lys	Pro	Pr
E-->	**95**					**85**					**90**					**95**	
	96	Ser	Gly	Thr	Lys	Glu	Lys	Lys	His	Gln	Cys	Asp	His	Cys	Glu	Arg	Cy
	97				100					105					110		
	98	Phe	Tyr	Thr	Arg	Lys	Asp	Val	Arg	Arg	His	Leu	Val	Val	His	Thr	Gl
	99			115					120					125			
	100	Cys	Lys	Asp	Phe	Leu	Cys	Gln	Phe	Cys	Ala	Gln	Arg	Phe	Gly	Arg	Ly
	101		130					135					140				
	102	Asp	His	Leu	Thr	Arg	His	Thr	Lys	Lys	Thr	His	Ser	Gln	Glu	Leu	Me
	103	145					150					155					16
	104	Lys	Glu	Ser	Leu	Gln	Thr	Gly	Asp	Leu	Leu	Ser	Thr	Phe	His	Thr	Il
E-->	**105**					**165**					**170**					**175**	
	106	Ser	Pro	Ser	Phe	Gln	Leu	Lys	Ala	Ala	Ala	Leu	Pro	Pro	Phe	Pro	Le
	107				180					185					190		
	108	Gly	Ala	Ser	Ala	Gln	Asn	Gly	Leu	Ala	Ser	Ser	Leu	Pro	Ala	Glu	Va
	109			195					200					205			
	110	His	Ser	Leu	Thr	Leu	Ser	Pro	Pro	Glu	Gln	Ala	Ala	Gln	Pro	Met	Gl
	111		210					215					220				
	112	Pro	Leu	Pro	Glu	Ser	Leu	Ala	Ser	Leu	His	Pro	Ser	Val	Ser	Pro	Gl
	113	225					230					235					24
	114	Ser	Pro	Pro	Pro	Pro	Leu	Pro	Asn	His	Lys	Tyr	Asn	Thr	Thr	Ser	Th
E-->	**115**					**245**					**250**					**255**	
	116	Ser	Tyr	Ser	Pro	Leu	Ala	Ser	Leu	Pro	Leu	Lys	Ala	Asp	Thr	Lys	Gl
	117				260					265					270		
	118	Phe	Cys	Asn	Ile	Ser	Leu	Phe	Glu	Asp	Leu	Pro	Leu	Gln	Glu	Pro	Gl
	119			275					280					285			
	120	Ser	Pro	Gln	Lys	Leu	Asn	Pro	Gly	Phe	Asp	Leu	Ala	Lys	Gly	Asn	Al
	121		290					295					300				
	122	Gly	Lys	Val	Asn	Leu	Pro	Lys	Glu	Leu	Pro	Ala	Asp	Ala	Val	Asn	Le
	123	305					310					315					32
	124	Thr	Ile	Pro	Ala	Ser	Leu	Asp	Leu	Ser	Pro	Leu	Leu	Gly	Phe	Trp	Gl
E-->	**125**					**325**					**330**					**335**	
	126	Leu	Pro	Pro	Pro	Ala	Thr	Gln	Asn	Thr	Phe	Gly	Asn	Ser	Thr	Leu	Al
	127				340					345					350		
	128	Leu	Gly	Pro	Gly	Glu	Ser	Leu	Pro	His	Arg	Leu	Ser	Cys	Leu	Gly	Gl
	129			355					360					365			
	130	Gln	Gln	Gln	Glu	Pro	Pro	Leu	Ala	Met	Gly	Thr	Val	Ser	Leu	Gly	Gl
	131		370					375					380				
	132	Leu	Pro	Leu	Pro	Pro	Ile	Pro	His	Val	Phe	Ser	Ala	Gly	Thr	Gly	Se
	133	385					390					395					40
	134	Ala	Ile	Leu	Pro	His	Phe	His	His	Ala	Phe	Arg					
E-->	**135**					**405**					**410**						

136 <210> 90

137 <211> 314
138 <212> PRT
139 <213> homo sapiens
140 <400> 90

141		Lys	Arg	Cys	Gln	Arg	Lys	Gln	Pro	Leu	Arg	Gly	Ile	Gly	Ile	Leu	Ly
142		1				5					10					15	
143		Gln	Ala	Ile	Asp	Lys	Met	Gln	Met	Asn	Thr	Asn	Gln	Leu	Thr	Ser	Il
144					20					25					30		
145		His	Ala	Asp	Leu	Cys	Gln	Leu	Cys	Leu	Leu	Ala	Lys	Cys	Phe	Lys	Pr
146				35					40					45			
147		Ala	Leu	Pro	Tyr	Leu	Asp	Val	Asp	Met	Met	Asp	Ile	Cys	Lys	Glu	As
148			50					55					60				
149		Gly	Ala	Tyr	Asp	Ala	Lys	His	Phe	Leu	Cys	Tyr	Tyr	Tyr	Tyr	Gly	Gl
150		65					70					75					8
151		Met	Ile	Tyr	Thr	Gly	Leu	Lys	Asn	Phe	Glu	Arg	Ala	Leu	Tyr	Phe	Ty
E-->	**152**					**85**					**90**					**95**	
153		Glu	Gln	Ala	Ile	Thr	Thr	Pro	Ala	Met	Ala	Val	Ser	His	Ile	Met	Le
154					100					105					110		
155		Glu	Ser	Tyr	Lys	Lys	Tyr	Ile	Leu	Val	Ser	Leu	Ile	Leu	Leu	Gly	Ly
156				115					120					125			
157		Val	Gln	Gln	Leu	Pro	Lys	Tyr	Thr	Ser	Gln	Ile	Val	Gly	Arg	Phe	Il
158			130					135					140				
159		Lys	Pro	Leu	Ser	Asn	Ala	Tyr	His	Glu	Leu	Ala	Gln	Val	Tyr	Ser	Th
160		145					150					155					16
161		Asn	Asn	Pro	Ser	Glu	Leu	Arg	Asn	Leu	Val	Asn	Lys	His	Ser	Glu	Th
E-->	**162**					**165**					**170**					**175**	
163		Phe	Thr	Arg	Asp	Asn	Asn	Met	Gly	Leu	Val	Lys	Gln	Cys	Leu	Ser	Se
164					180					185					190		
165		Leu	Tyr	Lys	Lys	Asn	Ile	Gln	Arg	Leu	Thr	Lys	Thr	Phe	Leu	Thr	Le
166				195					200					205			
167		Ser	Leu	Gln	Asp	Met	Ala	Ser	Arg	Val	Gln	Leu	Ser	Gly	Pro	Gln	Gl
168			210					215					220				
169		Ala	Glu	Lys	Tyr	Val	Leu	His	Met	Ile	Glu	Asp	Gly	Glu	Ile	Phe	Al
170		225					230					235					24
171		Ser	Ile	Asn	Gln	Lys	Asp	Gly	Met	Val	Ser	Phe	His	Asp	Asn	Pro	Gl
E-->	**172**					**245**					**250**					**255**	
173		Lys	Tyr	Asn	Asn	Pro	Ala	Met	Leu	His	Asn	Ile	Asp	Gln	Glu	Met	Le
174					260					265					270		
175		Lys	Cys	Ile	Glu	Leu	Asp	Glu	Arg	Leu	Lys	Ala	Met	Asp	Gln	Glu	Il
176				275					280					285			
177		Thr	Val	Asn	Pro	Gln	Phe	Val	Gln	Lys	Ser	Met	Gly	Ser	Gln	Glu	As
178			290					295					300				
179		Asp	Ser	Gly	Asn	Lys	Pro	Ser	Ser	Tyr	Ser						
180		305					310										

---

181 <210> 92
182 <211> 201
183 <212> PRT
184 <213> homo sapiens
185 <400> 92

same

RAW SEQUENCE LISTING
PATENT APPLICATION **US/09/646,569**

DATE: 12/14/2000
TIME: 09:51:07

Input Set: **I646569.RAW**

```
     186          Met  Asp  Leu  Ser  Leu  Leu  Trp  Val  Leu  Leu  Pro  Leu  Val  Thr  Met  Al
     187            1                    5                              10                   15
     188          Trp  Gly  Gln  Tyr  Gly  Asp  Tyr  Gly  Tyr  Pro  Tyr  Gln  Gln  Tyr  His  As
     189                      20                              25                        30
     190          Tyr  Ser  Asp  Asp  Gly  Trp  Val  Asn  Leu  Asn  Arg  Gln  Gly  Phe  Ser  Ty
     191               35                              40                        45
     192          Gln  Cys  Pro  Gln  Gly  Gln  Val  Ile  Val  Ala  Val  Arg  Ser  Ile  Phe  Se
     193               50                              55                        60
     194          Lys  Lys  Glu  Gly  Ser  Asp  Arg  Gln  Trp  Asn  Tyr  Ala  Cys  Met  Pro  Th
     195           65                              70                        75                   8
     196          Pro  Gln  Ser  Leu  Gly  Glu  Pro  Thr  Glu  Cys  Trp  Trp  Glu  Glu  Ile  As
E--> 197                              85                              90                   95
     198          Arg  Ala  Gly  Met  Glu  Trp  Tyr  Gln  Thr  Cys  Ser  Asn  Asn  Gly  Leu  Va
     199                      100                             105                       110
     200          Ala  Gly  Phe  Gln  Ser  Arg  Tyr  Phe  Glu  Ser  Val  Leu  Asp  Arg  Glu  Tr
     201               115                             120                       125
     202          Gln  Phe  Tyr  Cys  Cys  Arg  Tyr  Ser  Lys  Arg  Cys  Pro  Tyr  Ser  Cys  Tr
     203          Leu  130                             135                       140
     204          Leu  Thr  Thr  Glu  Tyr  Pro  Gly  His  Tyr  Gly  Glu  Glu  Met  Asp  Met  Il
     205          145                             150                       155                  16
     206          Ser  Tyr  Asn  Tyr  Asp  Tyr  Tyr  Ile  Arg  Gly  Ala  Thr  Thr  Thr  Phe  Se
E--> 207                              165                             170                  175
     208          Ala  Val  Glu  Arg  Asp  Arg  Gln  Trp  Lys  Phe  Ile  Met  Cys  Arg  Met  Th
     209                      180                             185                       190
     210          Glu  Tyr  Asp  Cys  Glu  Phe  Ala  Asn  Val
     211               195                             200
```

```
     212  <210> 93
     213  <211> 247
     214  <212> PRT
     215  <213> homo sapiens
     216  <400> 93
```

same

```
     217          Met  Gly  Asn  Gly  Leu  Ser  Glu  Glu  Arg  Gly  Asn  Asn  Phe  Asn  His  Il
     218            1                    5                              10                   15
     219          Ser  Pro  Ile  Pro  Pro  Val  Pro  His  Pro  Arg  Ser  Val  Ile  Gln  Gln  Al
     220                      20                              25                        30
     221          Glu  Glu  Lys  Leu  His  Thr  Pro  Gln  Lys  Arg  Leu  Met  Thr  Pro  Trp  Gl
     222               35                              40                        45
     223          Glu  Ser  Asn  Val  Met  Gln  Asp  Lys  Asp  Ala  Pro  Ser  Pro  Lys  Pro  Ar
     224               50                              55                        60
     225          Leu  Ser  Pro  Arg  Glu  Thr  Ile  Phe  Gly  Lys  Ser  Glu  His  Gln  Asn  Se
     226           65                              70                        75                   8
     227          Ser  Pro  Thr  Cys  Gln  Glu  Asp  Glu  Glu  Asp  Val  Arg  Tyr  Asn  Ile  Va
E--> 228                              85                              90                   95
     229          His  Ser  Leu  Pro  Pro  Asp  Ile  Asn  Asp  Thr  Glu  Pro  Val  Thr  Met  Il
     230                      100                             105                       110
     231          Phe  Met  Gly  Tyr  Gln  Gln  Ala  Glu  Asp  Ser  Glu  Glu  Asp  Lys  Lys  Ph
     232               115                             120                       125
     233          Leu  Thr  Gly  Tyr  Asp  Gly  Ile  Ile  His  Ala  Glu  Leu  Val  Val  Ile  As
     234          Leu  130                             135                       140
```

RAW SEQUENCE LISTING
PATENT APPLICATION **US/09/646,569**

Input Set: **I646569.RAW**

```
      235          Asp Glu Glu Glu Glu Asp Glu Gly Glu Ala Glu Lys Pro Ser Tyr Hi
      236          145                 150                 155                 16
      237          Pro Ile Ala Pro His Ser Gln Val Tyr Gln Pro Ala Lys Pro Thr Pr
E-->  238                        165                 170                 175
      239          Leu Pro Arg Lys Arg Ser Glu Ala Ser Pro His Glu Asn Thr Asn Hi
      240                      180                 185                 190
      241          Lys Ser Pro His Lys Asn Ser Ile Ser Leu Lys Glu Gln Glu Glu Se
      242                  195                 200                 205
      243          Leu Gly Ser Pro Val His His Ser Pro Phe Asp Ala Gln Thr Thr Gl
      244              210                 215                 220
      245          Asp Gly Thr Glu Asp Pro Ser Leu Thr Ala Leu Arg Met Arg Met Al
      246          225                 230                 235                 24
      247          Lys Leu Gly Lys Lys Val Ile
E-->  248                        245
```

```
      249  <210> 95
      250  <211> 188
      251  <212> PRT
      252  <213> homo sapiens
      253  <400> 95
      254          Met Pro Val Leu Arg Glu Tyr Leu Met Ser Gly Gly Ile Cys Pro Va
      255            1               5                  10                  15
      256          Ser Arg Asp Thr Ile Asp Tyr Leu Leu Ser Lys Asn Gly Ser Gly As
      257                      20                  25                  30
      258          Ala Ile Ile Ile Val Val Gly Gly Ala Ala Glu Ser Leu Ser Ser Me
      259                  35                  40                  45
      260          Pro Gly Lys Asn Ala Val Thr Leu Arg Asn Arg Lys Gly Phe Val Ly
      261              50                  55                  60
      262          Leu Ala Leu Arg His Gly Ala Asp Leu Val Pro Ile Tyr Ser Phe Gl
      263            65                  70                  75                  8
      264          Glu Asn Glu Val Tyr Lys Gln Val Ile Phe Glu Glu Gly Ser Trp Gl
E-->  265                        85                  90                  95
      266          Arg Trp Val Gln Lys Lys Phe Gln Lys Tyr Ile Gly Phe Ala Pro Cy
      267                      100                 105                 110
      268          Ile Phe His Gly Arg Gly Leu Phe Ser Ser Asp Thr Trp Gly Leu Va
      269                  115                 120                 125
      270          Pro Tyr Ser Lys Pro Ile Thr Thr Val Val Gly Glu Pro Ile Thr Il
      271              130                 135                 140
      272          Pro Lys Leu Glu His Pro Thr Gln Gln Asp Ile Asp Leu Tyr His Th
      273          145                 150                 155                 16
      274          Met Tyr Met Glu Ala Leu Val Lys Leu Phe Asp Lys His Lys Thr Ly
E-->  275                        165                 170                 175
      276          Phe Gly Leu Pro Glu Thr Glu Val Leu Glu Val Asn
      277                      180                 185
```

```
      278  <210> 96
      279  <211> 290
      280  <212> PRT
      281  <213> homo sapiens
      282  <400> 96
```

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RAW SEQUENCE LISTING
PATENT APPLICATION **US/09/646,569**

DATE: 12/14/2000
TIME: 09:51:07

Input Set: **I646569.RAW**

```
283          Arg Gly Ala Gly Thr Gln Pro Gly Pro Leu Leu Lys Lys Pro Tyr Gl
284            1               5                  10                  15
285          Pro Arg Ile Lys Ile Ser Lys Thr Ser Val Asp Gly Asp Pro His Ph
286                      20                  25                  30
287          Val Val Asp Phe Pro Leu Ser Arg Leu Thr Val Cys Phe Asn Ile As
288                  35                  40                  45
289          Gly Gln Pro Gly Asp Ile Leu Arg Leu Val Ser Asp His Arg Asp Se
290              50                  55                  60
291          Gly Val Thr Val Asn Gly Glu Leu Ile Gly Ala Pro Ala Pro Pro As
292            65                  70                  75                  8
293          Gly His Lys Lys Gln Arg Thr Tyr Leu Arg Thr Ile Thr Ile Leu Il
E--> 294                 85                  90                  95
295          Asn Lys Pro Glu Arg Ser Tyr Leu Glu Ile Thr Pro Ser Arg Val Il
296                      100                 105                 110
297          Leu Asp Gly Gly Asp Arg Leu Val Leu Pro Cys Asn Gln Ser Val Va
298                  115                 120                 125
299          Val Gly Ser Trp Gly Leu Glu Val Ser Val Ser Ala Asn Ala Asn Va
300              130                 135                 140
301          Thr Val Thr Ile Gln Gly Ser Ile Ala Phe Val Ile Leu Ile His Le
302          145                 150                 155                 16
303          Tyr Lys Lys Pro Ala Pro Phe Gln Arg His His Leu Gly Phe Tyr Il
E--> 304                 165                 170                 175
305          Ala Asn Ser Glu Gly Leu Ser Ser Asn Cys His Gly Leu Leu Gly Gl
306                      180                 185                 190
307          Phe Leu Asn Gln Asp Ala Arg Leu Thr Glu Asp Pro Ala Gly Pro Se
308                  195                 200                 205
309          Gln Asn Leu Thr His Pro Leu Leu Leu Gln Val Gly Glu Gly Pro Gl
310              210                 215                 220
311          Ala Val Leu Thr Val Lys Gly His Gln Val Pro Val Val Trp Lys Gl
312          225                 230                 235                 24
313          Arg Lys Ile Tyr Asn Gly Glu Glu Gln Ile Asp Cys Trp Phe Ala Ar
E--> 314                 245                 250                 255
315          Asn Asn Ala Ala Lys Leu Ile Asp Gly Glu Tyr Lys Asp Tyr Leu Al
316                      260                 265                 270
317          Ser His Pro Phe Asp Thr Gly Met Thr Leu Gly Gln Gly Met Ser Ar
318                  275                 280                 285
319          Glu Leu
320              290
```

```
321  <210> 100
322  <211> 98
323  <212> PRT
324  <213> homo sapiens
325  <400> 100
326          Met Gly Asn Lys Glu Pro Gly Ser His Gly His Arg Ser Asp Ala As
327            1               5                  10                  15
328          Pro Ser Arg Phe Ser Pro Val Leu Pro Pro Ala Val Gln Leu Gly Va
329                      20                  25                  30
330          Trp Arg Glu Glu Gly Arg Gly Gly Ser Cys Pro Phe Ser Trp Gly Ar
331                  35                  40                  45
```

```
     332          Gly  Pro  Val  Ser  Ser  Thr  Trp  Leu  Phe  Pro  Lys  Gly  Ser  Lys  Arg  Gl
     333               50                     55                     60
     334          Gly  Leu  Gly  Glu  Lys  Thr  Met  Glu  Arg  Gly  Pro  Ala  Lys  Glu  Asn  Ar
     335           65                     70                     75                          8
     336          Glu  Glu  Val  Ser  Gly  Leu  Ile  Ser  Leu  Leu  Ser  Arg  Cys  Ser  Gly  Se
E--> 337                          85                     90                          95
     338          Leu  Ile
```

```
     339  <210> 101
     340  <211> 117
     341  <212> PRT
     342  <213> homo sapiens
     343  <400> 101
     344          Met  Gly  Lys  Gly  Leu  Gly  Glu  Asp  Gly  Gln  Gln  Arg  Ala  Arg  Glu  Se
     345            1                5                     10                          15
     346          Trp  Thr  Ser  Gln  Arg  Arg  Arg  Pro  Gln  Gln  Val  Gln  Ser  Arg  Ala  Al
     347                    20                     25                          30
     348          Thr  Ser  Cys  Pro  Ala  Gly  Cys  Leu  Glu  Gly  Arg  Gly  Gln  Arg  Arg  Va
     349               35                     40                          45
     350          Met  Ser  Leu  Gln  Leu  Gly  Glu  Gly  Pro  Ser  Glu  Leu  His  Val  Ala  Ph
     351               50                     55                     60
     352          Ser  Gln  Arg  Glu  Gln  Glu  Gly  Arg  Ile  Gly  Arg  Glu  Asn  Asn  Gly  Gl
     353           65                     70                     75                          8
     354          Gly  Thr  Cys  Glu  Gly  Lys  Gln  Gly  Gly  Ser  Glu  Arg  Phe  Asp  Gln  Pr
E--> 355                          85                     90                          95
     356          Ala  Ile  Thr  Val  Phe  Trp  Leu  Ser  Tyr  Leu  Ala  Arg  Arg  Leu  Arg  As
     357                    100                    105                    110
     358          Arg  Tyr  Ile  Thr  Ser
     359               115
```

```
     360  <210> 102
     361  <211> 145
     362  <212> PRT
     363  <213> homo sapiens
     364  <400> 102
     365          Met  Asn  Arg  Gly  Pro  Pro  Thr  Phe  Trp  Thr  Phe  Glu  Asp  Arg  Gly  Al
     366            1                5                     10                          15
     367          Lys  Arg  Asp  Arg  Ser  Ala  Arg  Gly  Pro  His  Pro  Ala  Pro  Leu  Gly  Gl
     368                    20                     25                          30
     369          Pro  Leu  Leu  Thr  Trp  Val  Ser  Leu  Arg  Leu  His  Gln  Leu  Val  Gly  Le
     370               35                     40                          45
     371          Gln  Ala  Ser  Pro  Pro  Asp  Ser  Pro  His  Cys  Trp  Ala  Thr  Leu  Asn  Le
     372               50                     55                     60
     373          Lys  Phe  His  Cys  Pro  Ala  Pro  Pro  Thr  Pro  Thr  Pro  Lys  Phe  Pro  Ly
     374           65                     70                     75                          8
     375          Glu  Met  Ser  Lys  Thr  His  Ala  His  Thr  Tyr  Ile  His  Thr  Cys  Thr  Cy
E--> 376                          85                     90                          95
     377          Ala  His  Thr  Ser  Cys  Val  Thr  Thr  Gly  Gln  Gly  Asn  Ala  Ser  Leu  Ar
     378                    100                    105                    110
     379          Ile  Pro  Gly  Pro  Gly  Pro  Gly  Val  Lys  Gly  Cys  Ser  Gly  Thr  Leu  Pr
```

```
380                 115                 120                 125
381      Pro Asn Leu Leu Glu Asp Pro Glu Cys Gly Gly Arg Ile Gly Cys Le
382          130                 135                 140
383      Pro
384      145
```

```
385  <210> 103
386  <211> 197
387  <212> PRT
388  <213> homo sapiens
389  <400> 103
390      Met Arg Thr His Val Leu Cys Tyr His Trp Pro Arg Lys Arg Glu Se
391        1               5                  10                  15
392      Gln Asp Ser Arg Ala Trp Thr Trp Gly Lys Gly Leu Leu Trp Asp Se
393                  20                  25                  30
394      Ala Pro Gln Pro Leu Gly Gly Pro Arg Val Trp Gly Gln Asp Trp Va
395              35                  40                  45
396      Ser Ala Leu Thr His Arg Ile Ser Pro Gly Pro Lys Ala Glu Lys Ly
397          50                  55                  60
398      Ser Gly Arg Arg Ser Arg Arg Gln Gly Trp Trp Thr Lys Val Gly Va
399        65                  70                  75                  8
400      Arg Leu Lys Ser Gly Ser Glu Thr Arg Phe Asp His Thr His His Pr
E--> 401                 85                  90                  95
402      Ser Val Pro Pro Gly Gln His Ala Pro Leu Glu Pro Leu His Arg Le
403                  100                 105                 110
404      Ile Arg Thr Arg Gln Asn Leu Leu Leu Thr Asn Leu Leu Arg Ala Va
405              115                 120                 125
406      Tyr Arg Gly Ile Thr Leu Val Gln Glu Gly Cys Pro Ser Cys Phe Hi
407          130                 135                 140
408      Thr Thr Thr Gly Pro Thr Ile Pro Leu Leu Ala Ser Leu Arg Arg Pr
409      145                 150                 155                 16
410      Arg Asp Pro Gln Lys Pro Gly Glu Lys Glu Ser Trp Pro Leu Val Se
E--> 411                 165                 170                 175
412      Thr Ala Phe Arg Ala Thr Gly Gly Asp Ala Gln Met Thr Trp Val Ly
413                  180                 185                 190
414      Gly Leu Ser Gln Thr
415              195
```

```
416  <210> 104
417  <211> 152
418  <212> PRT
419  <213> homo sapiens
420  <400> 104
421      Ser Glu Ala Arg Asn Ala Pro Ser Gly Thr Ala Gln Thr Phe Ala Me
422        1               5                  10                  15
423      Gly Phe Met Thr Gly Thr Ile Ser Ser Met Tyr Gln Thr Lys Ala Va
424                  20                  25                  30
425      Ile Ile Ala Met Ile Ile Thr Ala Val Val Ser Ile Ser Val Thr Il
426              35                  40                  45
427      Phe Cys Phe Gln Thr Lys Val Asp Phe Thr Ser Cys Thr Gly Leu Ph
```

RAW SEQUENCE LISTING
PATENT APPLICATION **US/09/646,569**

Input Set: **I646569.RAW**

same

```
     428                 50                                  55                                  60
     429          Cys Val Leu Gly Ile Val Leu Leu Val Thr Gly Ile Val Thr Ser Il
     430           65                 70                                  75                     8
     431          Val Leu Tyr Phe Gln Tyr Val Tyr Trp Leu His Met Leu Tyr Ala Al
E--> 432                         85                                  90                     95
     433          Leu Gly Ala Ile Cys Phe Thr Leu Phe Leu Ala Tyr Asp Thr Gln Le
     434                     100                 105                             110
     435          Val Leu Gly Asn Arg Lys His Thr Ile Ser Pro Glu Asp Tyr Ile Th
     436                 115                 120                             125
     437          Gly Ala Leu Gln Ile Tyr Thr Asp Ile Ile Tyr Ile Phe Thr Phe Va
     438              130                 135                             140
     439          Leu Gln Leu Met Gly Asp Arg Asn
     440          145                 150
```

```
     441  <210> 106
     442  <211> 91
     443  <212> PRT
     444  <213> homo sapiens
     445  <400> 106
     446          Pro Thr Ser Leu Ile Trp Pro Thr Thr Met Phe Cys Ser Val His Va
     447            1               5                  10                  15
     448          Leu Phe Lys Ser Ile Leu Asn Trp Leu Pro Ser Phe Lys Leu Asn Gl
     449                     20                  25                  30
     450          Thr Leu Lys Ala Trp Ser Ser His Thr Gly Pro Thr Phe Pro His Gl
     451                 35                  40                  45
     452          Asn Tyr Glu Arg Ala Pro Ala Gln Gln Gly Leu Ser Arg Ser Leu Pr
     453              50                  55                  60
     454          Pro Pro Leu Pro Val Pro Gln Ile Trp Pro Leu Leu Arg Lys Ile Ar
     455           65                 70                  75                     8
     456          Thr Ala Thr Gly Pro Ser Glu Pro Lys Pro Thr
E--> 457                         85                  90
```

---

same

```
     458  <210> 108
     459  <211> 471
     460  <212> PRT
     461  <213> homo sapiens
     462  <400> 108
     463          Asn Glu Leu Lys Ala Ser Gly Gly Glu Ile Lys Ile His Lys Met Gl
     464            1               5                  10                  15
     465          Gln Lys Glu Asn Val Pro Pro Gly Pro Glu Val Cys Ile Thr His Gl
     466                     20                  25                  30
     467          Glu Gly Glu Lys Ile Ser Ala Asn Glu Asn Ser Leu Ala Val Arg Se
     468                 35                  40                  45
     469          Thr Pro Ala Glu Asp Asp Ser Arg Asp Ser Gln Val Lys Ser Glu Va
     470              50                  55                  60
     471          Gln Gln Pro Val His Pro Lys Pro Leu Ser Pro Asp Ser Arg Ala Se
     472           65                 70                  75                     8
     473          Ser Leu Ser Glu Ser Ser Pro Pro Lys Ala Met Lys Lys Phe Gln Al
E--> 474                         85                  90                  95
     475          Pro Ala Arg Glu Thr Cys Val Glu Cys Gln Lys Thr Val Tyr Pro Me
```

RAW SEQUENCE LISTING
PATENT APPLICATION **US/09/646,569**

Input Set: **I646569.RAW**

same

	476				100					105				110		
	477		Glu	Arg	Leu	Leu	Ala	Asn	Gln	Gln	Val	Phe	His	Ile	Ser	Cys	Phe	Ar
	478				115					120				125				
	479		Cys	Ser	Tyr	Cys	Asn	Asn	Lys	Leu	Ser	Leu	Gly	Thr	Tyr	Ala	Ser	Le
	480			130					135					140				
	481		His	Gly	Arg	Ile	Tyr	Cys	Lys	Pro	His	Phe	Asn	Gln	Leu	Phe	Lys	Se
	482		145					150					155					16
	483		Lys	Gly	Asn	Tyr	Asp	Glu	Gly	Phe	Gly	His	Arg	Pro	His	Lys	Asp	Le
E-->	**484**						**165**					**170**					**175**	
	485		Trp	Ala	Ser	Lys	Asn	Glu	Asn	Glu	Glu	Ile	Leu	Glu	Arg	Pro	Ala	Gl
	486					180					185					190		
	487		Leu	Ala	Asn	Ala	Arg	Glu	Thr	Pro	His	Ser	Pro	Gly	Val	Glu	Asp	Al
	488				195					200					205			
	489		Pro	Ile	Ala	Lys	Gly	Gly	Val	Leu	Ala	Ala	Ser	Met	Glu	Ala	Lys	Al
	490			210					215					220				
	491		Ser	Ser	Gln	Gln	Glu	Lys	Glu	Asp	Lys	Pro	Ala	Glu	Thr	Lys	Lys	Le
	492		225					230					235					24
	493		Arg	Ile	Ala	Trp	Pro	Pro	Pro	Thr	Glu	Leu	Gly	Ser	Ser	Gly	Ser	Al
E-->	**494**						**245**					**250**					**255**	
	495		Leu	Glu	Glu	Gly	Ile	Lys	Met	Ser	Lys	Pro	Lys	Trp	Pro	Pro	Glu	As
	496					260					265					270		
	497		Glu	Ile	Ser	Lys	Pro	Glu	Val	Pro	Glu	Asp	Val	Asp	Leu	Asp	Leu	Ly
	498				275					280					285			
	499		Lys	Leu	Arg	Arg	Ser	Ser	Ser	Leu	Lys	Glu	Arg	Ser	Arg	Pro	Phe	Th
	500			290					295					300				
	501		Val	Ala	Ala	Ser	Phe	Gln	Ser	Thr	Ser	Val	Lys	Ser	Pro	Lys	Thr	Va
	502		305					310					315					32
	503		Ser	Pro	Pro	Ile	Arg	Lys	Gly	Trp	Ser	Met	Ser	Glu	Gln	Ser	Glu	Gl
E-->	**504**						**325**					**330**					**335**	
	505		Ser	Val	Gly	Gly	Arg	Val	Ala	Glu	Arg	Lys	Gln	Val	Glu	Asn	Ala	Ly
	506					340					345					350		
	507		Ala	Ser	Lys	Lys	Asn	Gly	Asn	Val	Gly	Lys	Thr	Thr	Trp	Gln	Asn	Ly
	508				355					360					365			
	509		Glu	Ser	Lys	Gly	Glu	Thr	Gly	Lys	Arg	Ser	Lys	Glu	Gly	His	Ser	Le
	510			370					375					380				
	511		Glu	Met	Glu	Asn	Glu	Asn	Leu	Val	Glu	Asn	Gly	Ala	Asp	Ser	Asp	Gl
	512		385					390					395					40
	513		Asp	Asp	Asn	Ser	Phe	Leu	Lys	Gln	Gln	Ser	Pro	Gln	Glu	Pro	Lys	Se
E-->	**514**						**405**					**410**					**415**	
	515		Leu	Asn	Trp	Ser	Ser	Phe	Val	Asp	Asn	Thr	Phe	Ala	Glu	Glu	Phe	Th
	516					420					425					430		
	517		Thr	Gln	Asn	Gln	Lys	Ser	Gln	Asp	Val	Glu	Leu	Trp	Glu	Gly	Glu	Va
	518				435					440					445			
	519		Val	Lys	Glu	Leu	Ser	Val	Glu	Glu	Gln	Ile	Lys	Arg	Asn	Arg	Tyr	Ty
	520			450					455					460				
	521		Asp	Glu	Asp	Glu	Asp	Glu	Glu									
	522		465					470										

523 <210> 112
524 <211> 94

same

```
525  <212> PRT
526  <213> homo sapiens
527  <400> 112
528        Arg  Lys  Met  Leu  Arg  Ala  Ala  Leu  Pro  Ala  Leu  Pro  Ile  Pro  Arg  Cy
529          1                   5                        10                        15
530        Lys  Tyr  Thr  Leu  Phe  Leu  Ile  Ala  His  Met  Gly  Pro  Pro  Tyr  Leu  Le
531                         20                        25                        30
532        Ala  Leu  Val  Leu  Met  Leu  Lys  Ser  Trp  Pro  Trp  Glu  Arg  Cys  Leu  Pr
533                   35                        40                        45
534        Gly  Arg  His  Ser  Cys  Leu  Val  Gln  Ala  Lys  Pro  Leu  Cys  Asn  Ala  Se
535              50                        55                        60
536        Pro  Phe  Trp  Cys  Tyr  Glu  Val  Pro  Leu  Cys  Arg  Arg  Phe  His  Gln  Gl
537          65                        70                        75                   8
538        Leu  Val  Thr  Val  Pro  Ser  Thr  Arg  Thr  Cys  Phe  Glu  Ile  Ser
E--> 539                       85                        90
```

same

```
540  <210> 113
541  <211> 324
542  <212> PRT
543  <213> homo sapiens
544  <400> 113
545        Gly  Leu  Ser  Thr  Phe  Gln  Asn  Trp  Leu  Pro  Ser  Thr  Pro  Ala  Thr  Se
546          1                   5                        10                        15
547        Trp  Gly  Gly  Leu  Thr  Ser  Ser  Arg  Thr  Thr  Asp  Asn  Gly  Gly  Glu  Gl
548                         20                        25                        30
549        Thr  Ala  Leu  Ser  Pro  Gln  Glu  Ala  Pro  Phe  Ser  Gly  Ile  Ser  Thr  Pr
550                   35                        40                        45
551        Pro  Asp  Val  Leu  Ser  Val  Gly  Pro  Glu  Pro  Ala  Trp  Glu  Ala  Ala  Al
552              50                        55                        60
553        Thr  Thr  Lys  Gly  Leu  Ala  Thr  Asp  Val  Ala  Thr  Phe  Thr  Gln  Gly  Al
554          65                        70                        75                   8
555        Ala  Pro  Gly  Arg  Glu  Asp  Thr  Gly  Leu  Leu  Thr  Thr  Thr  His  Gly  Pr
E--> 556                       85                        90                        95
557        Glu  Glu  Ala  Pro  Arg  Leu  Ala  Met  Leu  Gln  Asn  Glu  Leu  Glu  Gly  Le
558                        100                       105                       110
559        Gly  Asp  Ile  Phe  His  Pro  Met  Asn  Ala  Glu  Glu  Gln  Ala  Gln  Leu  Al
560                   115                       120                       125
561        Ala  Ser  Gln  Pro  Gly  Pro  Lys  Val  Leu  Ser  Ala  Glu  Gln  Gly  Ser  Ty
562              130                       135                       140
563        Phe  Val  Arg  Leu  Gly  Asp  Leu  Gly  Pro  Ser  Phe  Arg  Gln  Arg  Ala  Ph
564        145                       150                       155                  16
565        Glu  His  Ala  Val  Ser  His  Leu  Gln  His  Gly  Gln  Phe  Gln  Ala  Arg  As
E--> 566                       165                       170                       175
567        Thr  Leu  Ala  Gln  Leu  Gln  Asp  Cys  Phe  Arg  Leu  Ile  Glu  Lys  Ala  Gl
568                        180                       185                       190
569        Gln  Ala  Pro  Glu  Gly  Gln  Pro  Arg  Leu  Asp  Gln  Gly  Ser  Gly  Ala  Se
570                   195                       200                       205
571        Ala  Glu  Asp  Ala  Ala  Val  Gln  Glu  Glu  Arg  Asp  Ala  Gly  Val  Leu  Se
572              210                       215                       220
573        Arg  Val  Cys  Gly  Leu  Leu  Arg  Gln  Leu  His  Thr  Ala  Tyr  Ser  Gly  Le
```

```
                225                 230                 235                 24
Val Ser Ser Leu Gln Gly Leu Pro Ala Glu Leu Gln Gln Pro Val Gl
E--> 576                 245                 250                 255
Arg Ala Arg His Ser Leu Cys Glu Leu Tyr Gly Ile Val Ala Ser Al
                260                 265                 270
Gly Ser Val Glu Glu Leu Pro Ala Glu Arg Leu Val Gln Ser Arg Gl
                275                 280                 285
Gly Val His Gln Ala Trp Gln Gly Leu Glu Gln Leu Leu Glu Gly Le
            290                 295                 300
Gln His Asn Pro Pro Leu Ser Trp Leu Val Gly Pro Phe Ala Leu Pr
305                 310                 315                 32
Ala Gly Gly Gln
```

```
<210> 114
<211> 148
<212> PRT
<213> homo sapiens
<400> 114
Ile Ala Met Thr Pro Pro Asn Ala Thr Glu Ala Ser Lys Pro Gln Gl
  1               5                  10                  15
Thr Thr Val Cys Pro Pro Cys Asp Asn Glu Leu Lys Ser Glu Ala Il
            20                  25                  30
Ile Glu His Leu Cys Ala Ser Glu Phe Ala Leu Arg Met Lys Ile Ly
        35                  40                  45
Glu Val Lys Lys Glu Asn Gly Asp Lys Lys Ile Val Pro Lys Lys Ly
    50                  55                  60
Lys Pro Leu Lys Leu Gly Pro Ile Lys Lys Lys Asp Leu Lys Lys Le
65                  70                  75                  8
Val Leu Tyr Leu Lys Asn Gly Ala Asp Cys Pro Cys His Gln Leu As
E--> 602                 85                  90                  95
Asn Leu Ser His His Phe Leu Ile Met Gly Arg Lys Val Lys Ser Gl
            100                 105                 110
Tyr Leu Leu Thr Ala Ile His Lys Trp Asp Lys Lys Asn Lys Glu Ph
        115                 120                 125
Lys Asn Phe Met Lys Lys Met Lys Asn His Glu Cys Pro Thr Phe Gl
    130                 135                 140
Ser Val Phe Lys
145
```

```
<210> 119
<211> 135
<212> PRT
<213> homo sapiens
<400> 119
Arg Ser Asn Ala Val Gln Leu Thr Arg Met Glu Tyr Ala Met Lys Se
  1               5                  10                  15
Leu Ser Leu Leu Tyr Pro Lys Ser Leu Ser Arg His Val Ser Val As
            20                  25                  30
Thr Ser Val Val Thr Gln Gln Leu Leu Ser Glu Pro Ser Pro Lys Al
        35                  40                  45
```

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RAW SEQUENCE LISTING
PATENT APPLICATION **US/09/646,569**

DATE: 12/14/2000
TIME: 09:51:07

Input Set: **I646569.RAW**

```
     622          Pro  Arg  Ala  Arg  Pro  Cys  Arg  Val  Ser  Thr  Ala  Asp  Arg  Ser  Val  Ar
     623               50                     55                     60
     624          Lys  Gly  Ile  Met  Ala  Tyr  Ser  Leu  Glu  Asp  Leu  Leu  Leu  Lys  Val  Ar
     625           65                     70                     75                          8
     626          Asp  Thr  Leu  Met  Leu  Ala  Asp  Lys  Pro  Phe  Phe  Leu  Val  Leu  Glu  Gl
E--> 627                          85                          90                          95
     628          Asp  Gly  Thr  Thr  Val  Glu  Thr  Glu  Glu  Tyr  Phe  Gln  Ala  Leu  Ala  Gl
     629                    100                     105                     110
     630          Asp  Thr  Val  Phe  Met  Val  Leu  Gln  Lys  Gly  Gln  Lys  Trp  Gln  Pro  Pr
     631                    115                     120                     125
     632          Ser  Glu  Gln  Gly  Thr  Arg  His
     633               130                     135
```

```
     634  <210> 122
     635  <211> 193
     636  <212> PRT
     637  <213> homo sapiens
     638  <400> 122
     639          Glu  Ala  Cys  Ala  His  Thr  Leu  Ser  Cys  Pro  Ala  Leu  Ala  Arg  Leu  Gl
     640            1                     5                     10                     15
     641          Arg  Ala  Arg  Arg  Arg  Pro  Trp  Met  Ser  His  Arg  Thr  Ser  Ser  Thr  Ph
     642                    20                     25                     30
     643          Arg  Ala  Glu  Arg  Ser  Phe  His  Ser  Ser  Ser  Ser  Ser  Ser  Ser  Ala  Al
     644                    35                     40                     45
     645          Thr  Ser  Ser  Ser  Ala  Ser  Arg  Ala  Leu  Pro  Ala  Gln  Asp  Pro  Pro  Me
     646               50                     55                     60
     647          Glu  Lys  Ala  Leu  Ser  Met  Phe  Ser  Asp  Asp  Phe  Gly  Ser  Phe  Met  Ar
     648           65                     70                     75                          8
     649          Pro  His  Ser  Glu  Pro  Leu  Ala  Phe  Pro  Ala  Arg  Pro  Gly  Gly  Ala  Gl
E--> 650                          85                          90                          95
     651          Asn  Ile  Lys  Thr  Leu  Gly  Asp  Ala  Tyr  Glu  Phe  Ala  Val  Asp  Val  Ar
     652                    100                     105                     110
     653          Asp  Phe  Ser  Pro  Glu  Asp  Ile  Ile  Val  Thr  Thr  Ser  Asn  Asn  His  Il
     654                    115                     120                     125
     655          Glu  Val  Arg  Ala  Glu  Lys  Leu  Ala  Ala  Asp  Gly  Thr  Val  Met  Asn  Th
     656               130                     135                     140
     657          Phe  Ala  His  Lys  Cys  Gln  Leu  Pro  Glu  Asp  Val  Asp  Pro  Thr  Ser  Va
     658          145                     150                     155                     16
     659          Thr  Ser  Ala  Leu  Arg  Glu  Asp  Gly  Ser  Leu  Thr  Ile  Arg  Ala  Arg  Ar
E--> 660                          165                         170                         175
     661          His  Pro  His  Thr  Glu  His  Val  Gln  Gln  Thr  Phe  Arg  Thr  Glu  Ile  Ly
     662                    180                     185                     190
     663          Ile
```

```
     664  <210> 126
     665  <211> 250
     666  <212> PRT
     667  <213> homo sapiens
     668  <400> 126
     669          Glu  Thr  Arg  Val  Lys  Thr  Ser  Leu  Glu  Leu  Leu  Arg  Thr  Gln  Leu  G
```

same

```
                1               5                  10                  15
Pro Thr Gly Thr Val Gly Asn Thr Ile Met Thr Ser Gln Pro Val Pr
                            20                  25                  30
Asn Glu Thr Ile Ile Val Leu Pro Ser Asn Val Ile Asn Phe Ser Gl
                        35                  40                  45
Ala Glu Lys Pro Glu Pro Thr Asn Gln Gly Gln Asp Ser Leu Lys Ly
            50                  55                  60
His Leu His Ala Glu Ile Lys Val Ile Gly Thr Ile Gln Ile Leu Cy
        65                  70                  75                  8
Gly Met Met Val Leu Ser Leu Gly Ile Ile Leu Ala Ser Ala Ser Ph
E--> 680                 85                  90                  95
Ser Pro Asn Phe Thr Gln Val Thr Ser Thr Leu Leu Asn Ser Ala Ty
                    100                 105                 110
Pro Phe Ile Gly Pro Phe Phe Phe Ile Ile Ser Gly Ser Leu Ser Il
                115                 120                 125
Ala Thr Glu Lys Arg Leu Thr Lys Leu Leu Val His Ser Ser Leu Va
            130                 135                 140
Gly Ser Ile Leu Ser Ala Leu Ser Ala Leu Val Gly Phe Ile Ile Le
        145                 150                 155                 16
Ser Val Lys Gln Ala Thr Leu Asn Pro Ala Ser Leu Gln Cys Glu Le
E--> 690                 165                 170                 175
Asp Lys Asn Asn Ile Pro Thr Arg Ser Tyr Val Ser Tyr Phe Tyr Hi
                    180                 185                 190
Asp Ser Leu Tyr Thr Thr Asp Cys Tyr Thr Ala Lys Ala Ser Leu Al
                195                 200                 205
Gly Thr Leu Ser Leu Met Leu Ile Cys Thr Leu Leu Glu Phe Cys Le
            210                 215                 220
Ala Val Leu Thr Ala Val Leu Arg Trp Lys Gln Ala Tyr Ser Asp Ph
        225                 230                 235                 24
Pro Gly Val Ser Val Leu Ala Gly Phe Thr
E--> 700                 245                 250
```

---

701 <210> 129
702 <211> 211
703 <212> PRT
704 <213> homo sapiens
705 <400> 129

same

```
                1               5                  10                  15
Pro Ala Ser Asn Arg Pro Lys Ser Gly Arg Ala Pro Glu Pro Arg Gl
                            20                  25                  30
Pro Ala Arg Arg Ser Ala Gly Gly Ser Pro Pro Pro Pro Pro Trp Pr
                        35                  40                  45
Arg Val Pro Ala Ala Ala Ala Ala Gly Thr Glu Gly Ala Ser Pro Asp Le
            50                  55                  60
Ala Pro Leu Arg Pro Ala Ala Pro Gly Gln Thr Pro Leu Arg Lys Gl
        65                  70                  75                  8
Val Leu Lys Ser Lys Met Gly Lys Ser Glu Lys Ile Ala Leu Pro Hi
                                                                    N
Gly Gln Leu Val His Gly Ile His Leu Tyr Glu Gln Pro Lys Ile As
E--> 717                 85                  90                  95
Arg Gln Lys Ser Lys Tyr Asn Leu Pro Leu Thr Lys Ile Thr Ser Al
```

RAW SEQUENCE LISTING
PATENT APPLICATION **US/09/646,569**

Input Set: **I646569.RAW**

```
     719                                100                                 105                                 110
     720       Lys  Arg  Asn  Glu  Asn  Asn  Phe  Trp  Gln  Asp  Ser  Val  Ser  Ser  Asp  Ar
     721                 115                                 120                                 125
     722       Ile  Gln  Lys  Gln  Glu  Lys  Lys  Pro  Phe  Lys  Asn  Thr  Glu  Asn  Ile  Ly
     723            130                                 135                                 140
     724       Asn  Ser  His  Leu  Lys  Lys  Ser  Ala  Phe  Leu  Thr  Glu  Val  Ser  Gln  Ly
     725       145                                 150                                 155                   16
     726       Glu  Asn  Tyr  Ala  Gly  Ala  Lys  Phe  Ser  Asp  Pro  Pro  Ser  Pro  Ser  Va
E--> 727                          165                                 170                                 175
     728       Leu  Pro  Lys  Pro  Pro  Ser  His  Trp  Met  Gly  Ser  Thr  Val  Glu  Asn  Se
     729                 180                                 185                                 190
     730       Asn  Gln  Asn  Arg  Glu  Leu  Met  Ala  Val  His  Leu  Lys  Thr  Leu  Leu  Ly
     731                 195                                 200                                 205
     732       Val  Gln  Thr
     733            210
```

```
     734  <210> 135
     735  <211> 87
     736  <212> PRT
     737  <213> homo sapiens
     738  <400> 135
     739       Leu  Asn  Val  Phe  Ser  Ser  Leu  Gln  Ile  Ser  Glu  Leu  Ile  Phe  Pro  Pr
     740         1                   5                                  10                                  15
     741       Leu  Pro  Met  Trp  His  Pro  Leu  Pro  Arg  Lys  Lys  Pro  Gly  Met  Tyr  Ar
     742                      20                                  25                                  30
     743       Gly  Asn  Gly  His  Gln  Asn  His  Tyr  Pro  Pro  Pro  Val  Pro  Phe  Gly  Ty
     744                 35                                  40                                  45
     745       Pro  Asn  Gln  Gly  Arg  Lys  Asn  Lys  Pro  Tyr  Arg  Pro  Ile  Pro  Val  Th
     746            50                                  55                                  60
     747       Trp  Val  Pro  Pro  Pro  Gly  Met  His  Cys  Asp  Arg  Asn  His  Trp  Ile  As
     748        65                             70                                  75                        8
     749       Pro  His  Met  Leu  Ala  Pro  His
E--> 750                         85
```

```
     751  <210> 138
     752  <211> 366
     753  <212> PRT
     754  <213> homo sapiens
     755  <400> 138
     756       Arg  Pro  Lys  Pro  Gly  His  Pro  Leu  Tyr  Ser  Lys  Tyr  Met  Arg  Gly  As
     757         1                   5                                  10                                  15
     758       Val  Leu  Val  Met  Leu  Lys  Gln  Thr  Glu  Asn  Asn  Tyr  Leu  Glu  Cys  Gl
     759                      20                                  25                                  30
     760       Lys  Gly  Glu  Asp  Thr  Gly  Arg  Val  His  Leu  Ser  Gln  Met  Lys  Ile  Il
     761                 35                                  40                                  45
     762       Thr  Pro  Leu  Asp  Glu  His  Leu  Arg  Ser  Arg  Pro  Asn  Asp  Pro  Ser  Hi
     763            50                                  55                                  60
     764       Ala  Gln  Lys  Pro  Val  Asp  Ser  Gly  Ala  Pro  His  Ala  Val  Val  Leu  Hi
     765        65                             70                                  75                        8
     766       Asp  Phe  Pro  Ala  Glu  Gln  Val  Asp  Asp  Leu  Asn  Leu  Thr  Ser  Gly  Gl
```

RAW SEQUENCE LISTING
PATENT APPLICATION **US/09/646,569**

Input Set: **I646569.RAW**

Name

E-->	**767**					**85**					**90**					**95**	
	768		Ile	Val	Tyr	Leu	Leu	Glu	Lys	Ile	Asp	Thr	Asp	Trp	Tyr	Arg	Gly	As
	769					100					105					110		
	770		Cys	Arg	Asn	Gln	Ile	Gly	Ile	Phe	Pro	Ala	Asn	Tyr	Val	Lys	Val	Il
	771				115					120					125			
	772		Ile	Asp	Ile	Pro	Glu	Gly	Gly	Asn	Gly	Lys	Arg	Glu	Cys	Val	Ser	Se
	773			130					135					140				
	774		His	Cys	Val	Lys	Gly	Ser	Arg	Cys	Val	Ala	Arg	Phe	Glu	Tyr	Ile	Gl
	775		145					150					155					16
	776		Glu	Gln	Lys	Asp	Glu	Leu	Ser	Phe	Ser	Glu	Gly	Glu	Ile	Ile	Ile	Le
E-->	**777**						**165**					**170**					**175**	
	778		Lys	Glu	Tyr	Val	Asn	Glu	Glu	Trp	Ala	Arg	Gly	Glu	Val	Arg	Gly	Ar
	779					180					185					190		
	780		Thr	Gly	Ile	Phe	Pro	Leu	Asn	Phe	Val	Glu	Pro	Val	Glu	Asp	Tyr	Pr
	781				195					200					205			
	782		Thr	Ser	Gly	Ala	Asn	Val	Leu	Ser	Thr	Lys	Val	Pro	Leu	Lys	Thr	Ly
	783			210					215					220				
	784		Lys	Glu	Asp	Ser	Gly	Ser	Asn	Ser	Gln	Val	Asn	Ser	Leu	Pro	Ala	Gl
	785		225					230					235					24
	786		Trp	Cys	Glu	Ala	Leu	His	Ser	Phe	Thr	Ala	Glu	Thr	Ser	Asp	Asp	Le
E-->	**787**						**245**					**250**					**255**	
	788		Ser	Phe	Lys	Arg	Gly	Asp	Arg	Ile	Gln	Ile	Leu	Glu	Arg	Leu	Asp	Se
	789					260					265					270		
	790		Asp	Trp	Cys	Arg	Gly	Arg	Leu	Gln	Asp	Arg	Glu	Gly	Ile	Phe	Pro	Al
	791				275					280					285			
	792		Val	Phe	Val	Arg	Pro	Cys	Pro	Ala	Glu	Ala	Lys	Ser	Met	Leu	Ala	Il
	793			290					295					300				
	794		Val	Pro	Lys	Gly	Arg	Lys	Ala	Lys	Ala	Leu	Tyr	Asp	Phe	Arg	Gly	Gl
	795		305					310					315					32
	796		Asn	Glu	Asp	Glu	Leu	Ser	Phe	Lys	Ala	Gly	Asp	Ile	Ile	Thr	Glu	Le
E-->	**797**						**325**					**330**					**335**	
	798		Glu	Ser	Val	Asp	Asp	Asp	Trp	Met	Ser	Gly	Glu	Leu	Met	Gly	Lys	Se
	799					340					345					350		
	800		Gly	Ile	Phe	Pro	Lys	Asn	Tyr	Ile	Gln	Phe	Leu	Gln	Ile	Ser		
	801				355					360					365			

---

802 <210> 145
803 <211> 109
804 <212> PRT
805 <213> homo sapiens
806 <400> 145

Name

807	Met	Pro	Lys	Gly	Lys	Ala	Phe	Arg	Arg	Thr	Leu	Arg	Ile	Thr	Ser	Le
808	1				5					10					15	
809	Phe	Phe	Ser	Ser	Leu	Leu	Leu	Leu	Gln	Leu	Leu	Phe	Gly	His	His	Le
810				20					25					30		
811	Leu	Val	Leu	Val	Ser	Pro	Gln	Leu	Pro	Gly	Ala	Val	Phe	Glu	Gly	Gl
812			35					40					45			
813	Ala	Phe	Ser	Val	Pro	Pro	Pro	Gln	Ala	Leu	Pro	Met	Met	Ala	Pro	Se
814		50					55					60				
815	His	His	Pro	Ser	Pro	Ala	Pro	Leu	Pro	Ala	Ser	Pro	Pro	Pro	Pro	Al

RAW SEQUENCE LISTING
PATENT APPLICATION **US/09/646,569**

Input Set: **I646569.RAW**

same

```
     816          65                                  70                                  75                                  8
     817      Pro Pro Pro Pro Trp Arg Arg Arg Gly Ile Pro Leu Ala Phe Gly Le
E--> 818                          85                                  90                                  95
     819      Pro Arg Ser Arg Arg Leu Pro Glu Leu Pro Gln Pro Arg
     820                      100                 105
```

---

same

```
     821  <210> 146
     822  <211> 247
     823  <212> PRT
     824  <213> homo sapiens
     825  <400> 146
     826      Arg Pro Ala Pro Ala Pro Arg Cys Gln Leu Pro Gln Arg Pro Ala Gl
     827        1                 5                                  10                  15
     828      Ala Arg Cys Met Leu Ser Arg Cys Arg Ser Arg Leu Leu His Val Le
     829                      20                  25                  30
     830      Gly Leu Ser Phe Leu Leu Gln Thr Arg Arg Pro Ile Leu Leu Cys Se
     831                  35                  40                  45
     832      Pro Arg Leu Met Lys Pro Leu Val Val Phe Val Leu Gly Gly Pro Gl
     833            50                  55                  60
     834      Ala Gly Lys Gly Thr Gln Cys Ala Arg Ile Val Glu Lys Tyr Gly Ty
     835        65                  70                  75                  8
     836      Thr His Leu Ser Ala Gly Glu Leu Leu Arg Asp Glu Arg Lys Asn Pr
E--> 837                          85                                  90                                  95
     838      Asp Ser Gln Tyr Gly Glu Leu Ile Glu Lys Tyr Ile Lys Glu Gly Ly
     839                      100                 105                 110
     840      Ile Val Pro Val Glu Ile Thr Ile Ser Leu Leu Lys Arg Glu Met As
     841                  115                 120                 125
     842      Gln Thr Met Ala Ala Asn Ala Gln Lys Asn Lys Phe Leu Ile Asp Gl
     843            130                 135                 140
     844      Phe Pro Arg Asn Gln Asp Asn Leu Gln Gly Trp Asn Lys Thr Met As
     845      145                 150                 155                 16
     846      Gly Lys Ala Asp Val Ser Phe Val Leu Phe Phe Asp Cys Asn Asn Gl
E--> 847                          165                 170                 175
     848      Ile Cys Ile Glu Arg Cys Leu Glu Arg Gly Lys Ser Ser Gly Arg Se
     849                      180                 185                 190
     850      Asp Asp Asn Arg Glu Ser Leu Glu Lys Arg Ile Gln Thr Tyr Leu Gl
     851                  195                 200                 205
     852      Ser Thr Lys Pro Ile Ile Asp Leu Tyr Glu Glu Met Gly Lys Val Ly
     853            210                 215                 220
     854      Lys Ile Asp Ala Ser Lys Ser Val Asp Glu Val Phe Asp Glu Val Va
     855      225                 230                 235                 24
     856      Gln Ile Phe Asp Lys Glu Gly
E--> 857                          245
```

---

same

```
     858  <210> 147
     859  <211> 181
     860  <212> PRT
     861  <213> homo sapiens
     862  <400> 147
     863      Ile Pro Asn Met Ala Ala Pro Leu Gly Gly Met Phe Ser Gly Gln Pr
```

RAW SEQUENCE LISTING
PATENT APPLICATION **US/09/646,569**

Input Set: **I646569.RAW**

```
                1               5                  10                  15
      Pro Gly Pro Pro Gln Ala Pro Pro Gly Leu Pro Gly Gln Ala Ser Le
                        20                  25                  30
      Leu Gln Ala Ala Pro Gly Ala Pro Arg Pro Ser Ser Ser Thr Leu Va
                    35                  40                  45
      Asp Glu Leu Glu Ser Ser Phe Glu Ala Cys Phe Ala Ser Leu Val Se
                50                  55                  60
      Gln Asp Tyr Val Asn Gly Thr Asp Gln Glu Glu Ile Arg Thr Gly Va
            65                  70                  75                  8
      Asp Gln Cys Ile Gln Lys Phe Leu Asp Ile Ala Arg Gln Thr Glu Cy
E-->  874                 85                  90                  95
      Phe Phe Leu Gln Lys Arg Leu Gln Leu Ser Val Gln Lys Pro Glu Gl
                    100                 105                 110
      Val Ile Lys Glu Asp Val Ser Glu Leu Arg Asn Glu Leu Gln Arg Ly
                115                 120                 125
      Asp Ala Leu Val Gln Lys His Leu Thr Lys Leu Arg His Trp Gln Gl
            130                 135                 140
      Val Leu Glu Asp Ile Asn Val Gln His Lys Lys Pro Ala Asp Ile Pr
      145                 150                 155                 16
      Gln Gly Ser Leu Ala Tyr Leu Glu Gln Ala Ser Ala Asn Ile Pro Al
E-->  884                 165                 170                 175
      Pro Leu Lys Pro Thr
                    180
```

```
<210> 148
<211> 236
<212> PRT
<213> homo sapiens
<400> 148
      Met Leu Arg Asp Leu Gln Leu Gln Ile Leu Arg Asn Val Thr His Hi
        1               5                  10                  15
      Val Ser Val Thr Lys Gln Leu Pro Thr Ser Glu Ala Val Val Ser Al
                    20                  25                  30
      Val Ser Glu Ala Gly Ala Ser Gly Ile Thr Glu Ala Gln Ala Arg Al
                35                  40                  45
      Ile Val Asn Ser Ala Leu Lys Leu Tyr Ser Gln Asp Lys Thr Gly Me
            50                  55                  60
      Val Asp Phe Ala Leu Glu Ser Gly Gly Gly Ser Ile Leu Ser Thr Ar
        65                  70                  75                  8
      Cys Ser Glu Thr Tyr Glu Thr Lys Thr Ala Leu Met Ser Leu Phe Gl
E-->  903                 85                  90                  95
      Ile Pro Leu Trp Tyr Phe Ser Gln Ser Pro Arg Val Val Ile Gln Pr
                    100                 105                 110
      Asp Ile Tyr Pro Gly Asn Cys Trp Ala Phe Lys Gly Ser Gln Gly Ty
                115                 120                 125
      Leu Val Val Arg Leu Ser Met Met Ile His Pro Ala Ala Phe Thr L
            130                 135                 140
      Glu His Ile Pro Lys Thr Leu Ser Pro Thr Gly Asn Ile Ser Ser Al
      145                 150                 155                 16
      Pro Lys Asp Phe Ala Val Tyr Gly Leu Glu Asn Glu Tyr Gln Glu Gl
```

same

E-->	**913**					**165**					**170**					**175**	
	914		Gly	Gln	Leu	Leu	Gly	Gln	Phe	Thr	Tyr	Asp	Gln	Asp	Gly	Glu	Ser	Le
	915					180					185					190		
	916		Gln	Met	Phe	Gln	Ala	Leu	Lys	Arg	Pro	Asp	Asp	Thr	Ala	Phe	Gln	Il
	917				195					200					205			
	918		Val	Glu	Leu	Arg	Ile	Phe	Ser	Asn	Trp	Gly	His	Pro	Glu	Tyr	Thr	Cy
	919			210					215					220				
	920		Leu	Tyr	Arg	Phe	Arg	Val	His	Gly	Glu	Pro	Val	Lys				
	921		225					230					235					

	922	<210> 151														
	923	<211> 377														
	924	<212> PRT														
	925	<213> homo sapiens														
	926	<400> 151														
	927		Leu	Arg	Arg	Phe	Pro	Ala	Gln	Ser	Ser	Pro	Ala	Pro	Arg	Arg	Ala	Pr
	928		1				5					10					15	
	929		Glu	Gln	Arg	Pro	Pro	Ala	Gly	Pro	Ala	Ser	Ala	Trp	Ser	Ser	Ser	Ty
	930					20					25					30		
	931		Pro	His	Ala	Pro	Tyr	Leu	Gly	Ser	Ala	Arg	Ser	Leu	Ser	Pro	His	Ly
	932				35					40					45			
	933		Met	Ala	Asp	Gly	Gly	Ser	Pro	Phe	Leu	Gly	Arg	Arg	Asp	Phe	Val	Ty
	934			50					55					60				
	935		Pro	Ser	Ser	Thr	Arg	Asp	Pro	Ser	Ala	Ser	Asn	Gly	Gly	Gly	Ser	Pr
	936		65					70					75					8
	937		Ala	Arg	Arg	Glu	Glu	Lys	Lys	Arg	Lys	Ala	Ala	Arg	Leu	Lys	Phe	As
E-->	**938**						**85**					**90**					**95**	
	939		Phe	Gln	Ala	Gln	Ser	Pro	Lys	Glu	Leu	Thr	Leu	Gln	Lys	Gly	Asp	Il
	940					100					105					110		
	941		Val	Tyr	Ile	His	Lys	Glu	Val	Asp	Lys	Asn	Trp	Leu	Glu	Gly	Glu	Hi
	942				115					120					125			
	943		His	Gly	Arg	Leu	Gly	Ile	Phe	Pro	Ala	Asn	Tyr	Val	Glu	Val	Leu	Pr
	944			130					135					140				
	945		Ala	Asp	Glu	Ile	Pro	Lys	Pro	Ile	Lys	Pro	Pro	Thr	Tyr	Gln	Val	Le
	946		145					150					155					16
	947		Glu	Tyr	Gly	Glu	Ala	Val	Ala	Gln	Tyr	Thr	Phe	Lys	Gly	Asp	Leu	Gl
E-->	**948**						**165**					**170**					**175**	
	949		Val	Glu	Leu	Ser	Phe	Arg	Lys	Gly	Glu	His	Ile	Cys	Leu	Ile	Arg	Ly
	950					180					185					190		
	951		Val	Asn	Glu	Asn	Trp	Tyr	Glu	Gly	Arg	Ile	Thr	Gly	Thr	Gly	Arg	Gl
	952				195					200					205			
	953		Gly	Ile	Phe	Pro	Ala	Ser	Tyr	Val	Gln	Val	Ser	Arg	Glu	Pro	Arg	Le
	954			210					215					220				
	955		Arg	Leu	Cys	Asp	Asp	Gly	Pro	Gln	Leu	Pro	Thr	Ser	Pro	Arg	Leu	Th
	956		225					230					235					24
	957		Ala	Ala	Ala	Arg	Ser	Ala	Arg	Asp	Pro	Ser	Ala	Pro	Ser	Ala	Leu	Ar
E-->	**958**						**245**					**250**					**255**	
	959		Ser	Pro	Ala	Asp	Pro	Thr	Asp	Leu	Gly	Gly	Gln	Thr	Ser	Pro	Arg	Ar
	960					260					265					270		
	961		Thr	Gly	Phe	Ser	Phe	Pro	Thr	Gln	Glu	Pro	Arg	Pro	Gln	Thr	Gln	As

same

962 275 280 285
963 Leu Gly Thr Pro Gly Pro Ala Leu Ser His Ser Arg Gly Pro Ser Hi
964 290 295 300
965 Pro Leu Asp Leu Gly Thr Ser Ser Pro Asn Thr Ser Gln Ile His Tr
966 305 310 315 32
967 Thr Pro Tyr Arg Ala Met Tyr Gln Tyr Arg Pro Gln Asn Glu Asp Gl
E--> **968** **325** **330** **335**
969 Leu Glu Leu Arg Glu Gly Asp Arg Val Asp Val Met Gln Gln Cys As
970 340 345 350
971 Asp Gly Trp Phe Val Gly Val Ser Arg Arg Thr Gln Lys Phe Gly Th
972 355 360 365
973 Phe Pro Gly Asn Tyr Val Ala Pro Val
974 370 375

---

975 <210> 157
976 <211> 97
977 <212> PRT
978 <213> homo sapiens
979 <400> 157
980 Gly Thr Pro Gly Pro Tyr Pro Gly Pro Leu Ser Pro Pro Pro Glu Al
981 1 5 10 15
982 Pro Pro Leu Glu Ser Ala Glu Pro Leu Gly Pro Ala Ala Asp Leu Tr
983 20 25 30
984 Ala Asp Val Asp Leu Thr Glu Phe Asp Gln Tyr Leu Asn Cys Ser Ar
985 35 40 45
986 Thr Arg Pro Asp Ala Pro Gly Leu Pro Tyr His Val Ala Leu Ala Ly
987 50 55 60
988 Leu Gly Pro Arg Ala Met Ser Cys Pro Glu Glu Ser Ser Leu Ile Se
989 65 70 75 8
990 Ala Leu Ser Asp Ala Ser Ser Ala Val Tyr Tyr Ser Ala Cys Ile Se
E--> **991** **85** **90** **95**
992 Gly

---

same

993 <210> 158
994 <211> 173
995 <212> PRT
996 <213> homo sapiens
997 <400> 158
998 Gly Leu Phe Pro Ala Val Cys Pro Trp Pro Ala Leu Asp Leu Leu Se
999 1 5 10 15
1000 Gly Pro Gln Trp Gln Arg Gly Pro Gly Pro Gly Ala Gly Val Gly As
1001 20 25 30
1002 Pro Gly Leu Ser Ala Val Ala Phe Trp Trp Gly Ala Met Glu Thr Gl
1003 35 40 45
1004 Asn Gln Ala Val Gly Ser Gln Arg Trp Ser Leu Arg Gly Glu Trp As
1005 50 55 60
1006 Ala Phe Cys Phe Cys Leu Val Pro Pro His Gly Thr Trp Phe Pro G
1007 65 70 75 8
1008 Glu Asn Glu Arg Arg Gly Glu Val Glu Asn Arg Thr Phe His Lys G
E--> **1009** **85** **90** **95**

same

RAW SEQUENCE LISTING
PATENT APPLICATION **US/09/646,569**

Input Set: **I646569.RAW**

```
      1010          Tyr  Phe  Leu  Ile  Gly  Cys  Lys  Met  Leu  Met  Pro  Arg  Met  Met  Ile  Ph
      1011                          100                     105                     110
      1012          Phe  Pro  Ala  Asp  Glu  Thr  Ile  Arg  Lys  Gly  Leu  Arg  Leu  Trp  Gln  Va
      1013                    115                     120                     125
      1014          Gly  Phe  Gly  Ala  Gly  Ala  Glu  Thr  Phe  Leu  Ser  Met  Arg  Thr  Ser  Ty
      1015               130                     135                     140
      1016          Ser  Ser  Ser  Trp  Gly  Gly  Ala  Ala  Cys  Gly  Met  Ala  Gly  Glu  Asp  Al
      1017          145                     150                     155                     16
      1018          Leu  Glu  Asn  Arg  Pro  Pro  Ser  Val  Glu  Gly  Pro  Phe  Pro
E-->  1019                          165                     170
```

```
      1020  <210> 159
      1021  <211> 109
      1022  <212> PRT
      1023  <213> homo sapiens
      1024  <400> 159
      1025          Gly  His  Leu  Arg  Ser  Val  Phe  Ser  Ser  Pro  Trp  Leu  Cys  Gly  Val  Se
      1026            1                5                     10                    15
      1027          Ser  Gly  Leu  Trp  Ala  Cys  Arg  Glu  Val  Ala  Val  Arg  Gln  Ser  Ala  Le
      1028                          20                     25                    30
      1029          Trp  Pro  Cys  Leu  Cys  Pro  Ala  Arg  Gly  Arg  Gly  Leu  Trp  Thr  Ser  Ar
      1030                    35                     40                    45
      1031          Pro  Ser  Gly  Trp  Gly  Ser  Arg  Ser  Val  Gln  Ala  Gly  Ser  Ser  Thr  Cy
      1032               50                     55                    60
      1033          Pro  Pro  Arg  Gln  Pro  Ser  Pro  Ser  Leu  Ser  Ala  Gly  Ala  Ala  Gly  Pr
      1034            65                     70                    75                     8
      1035          Ala  Gly  Ala  Phe  Pro  Ala  Thr  Leu  Phe  Leu  His  Val  Leu  Pro  Ser  Gl
E-->  1036                          85                     90                    95
      1037          Pro  Arg  Pro  Ser  Thr  Gly  Lys  Thr  Ser  Arg  Leu  Thr  Pro
      1038                          100                    105
```

---

same

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      1039  <210> 160
      1040  <211> 152
      1041  <212> PRT
      1042  <213> homo sapiens
      1043  <400> 160
      1044          Asn  Ile  Arg  Gly  Asn  Gln  His  Leu  Lys  Asn  Arg  Leu  His  Glu  Arg  Ar
      1045            1                5                     10                    15
      1046          Ala  Ala  Arg  Arg  Gly  Ser  Ala  Pro  Pro  Thr  Thr  Pro  Thr  Ala  Glu  As
      1047                          20                     25                    30
      1048          Thr  Glu  Arg  Pro  Gly  Ala  Pro  Ser  Trp  Phe  Pro  Leu  Val  Pro  Asn  Gl
      1049                    35                     40                    45
      1050          Thr  Glu  Arg  Leu  Lys  Glu  Leu  Pro  Gly  Met  Val  Thr  Ala  Glu  Lys  Ly
      1051               50                     55                    60
      1052          Ser  Ser  Glu  Trp  Leu  His  Ala  Ala  Ala  Ala  Cys  Val  His  Leu  Pro  Se
      1053            65                     70                    75                     8
      1054          Thr  Gln  Asp  Ser  Pro  Arg  Gln  Gln  Leu  Val  Phe  Thr  Cys  Pro  Pro  Pr
E-->  1055                          85                     90                    95
      1056          Arg  Thr  Val  Pro  Gly  Leu  Ala  Pro  Gly  Cys  Arg  Gly  Ser  Ala  Glu  Gl
      1057                          100                    105                   110
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1058          Ala  Ser  Cys  Pro  Ile  Ser  Leu  Ala  Asn  Ser  Leu  Leu  Leu  Leu  Gly  Pr
1059                    115                    120                    125
1060          His  Lys  Arg  His  Gly  Arg  Met  Phe  Leu  Ile  Arg  Gln  Glu  His  Arg  Th
1061               130                    135                    140
1062          Pro  Asn  Pro  Ser  Leu  Cys  Leu  Ala
1063          145                    150
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same

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1066  <212> PRT
1067  <213> homo sapiens
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1070            1                   5                        10                       15
1071          Ala  Leu  Val  Val  Ala  Ala  Thr  Met  Asn  Lys  Lys  Lys  Lys  Pro  Phe  Le
1072                         20                        25                       30
1073          Gly  Met  Pro  Ala  Pro  Leu  Gly  Tyr  Val  Pro  Gly  Leu  Gly  Arg  Gly  Al
1074                    35                        40                       45
1075          Thr  Gly  Phe  Thr  Thr  Arg  Ser  Asp  Ile  Gly  Pro  Ala  Arg  Asp  Ala  As
1076               50                        55                       60
1077          Asp  Pro  Val  Asp  Asp  Arg  His  Ala  Pro  Pro  Gly  Lys  Arg  Thr  Val  Gl
1078            65                        70                       75                   8
1079          Asp  Gln  Met  Lys  Lys  Asn  Gln  Ala  Ala  Asp  Asp  Asp  Asp  Glu  Asp  Le
E--> 1080                       85                        90                       95
1081          Asn  Asp  Thr  Asn  Tyr  Asp  Glu  Phe  Asn  Gly  Tyr  Ala  Gly  Ser  Leu  Ph
1082                         100                       105                      110
1083          Ser  Ser  Gly  Pro  Tyr  Glu  Lys  Asp  Asp  Glu  Glu  Ala  Asp  Ala  Ile  Ty
1084                    115                       120                      125
1085          Ala  Ala  Leu  Asp  Lys  Arg  Met  Asp  Glu  Arg  Arg  Lys  Glu  Arg  Arg  Gl
1086               130                       135                      140
1087          Gln  Arg  Glu  Lys  Glu  Glu  Ile  Glu  Lys  Tyr  Arg  Met  Glu  Arg  Pro  Ly
1088          145                       150                      155                  16
1089          Ile  Gln  Gln  Gln  Phe  Ser  Asp  Leu  Lys  Arg  Lys  Leu  Ala  Glu  Val  Th
E--> 1090                       165                       170                      175
1091          Glu  Glu  Glu  Trp  Leu  Ser  Ile  Pro  Glu  Val  Gly  Asp  Ala  Arg  Asn  Ly
1092                         180                       185                      190
1093          Arg  Gln  Arg  Asn  Pro  Arg  Tyr  Glu  Lys  Leu  Thr  Pro  Val  Pro  Asp  Se
1094                    195                       200                      205
1095          Phe  Phe  Ala  Lys  His  Leu  Gln  Thr  Gly  Glu  Asn  His  Thr  Ser  Val  As
1096               210                       215                      220
1097          Pro  Arg  Gln  Thr  Gln  Phe  Gly  Gly  Leu  Asn  Thr  Pro  Tyr  Pro  Gly  Gl
1098          225                       230                      235                  24
1099          Leu  Asn  Thr  Pro  Tyr  Pro  Gly  Gly  Met  Thr  Pro  Gly  Leu  Met  Thr  Pr
E--> 1100                       245                       250                      255
1101          Gly  Thr  Val  Ser  Trp  Thr
1102                         260
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1104  <211> 467
1105  <212> PRT
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RAW SEQUENCE LISTING
PATENT APPLICATION **US/09/646,569**

Input Set: **I646569.RAW**

1106 <213> homo sapiens
1107 <400> 180

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1110		Ala	Arg	Thr	Asp	Asp	Thr	Trp	His	Ser	Glu	Leu	Asp	Met	Arg	Lys	Il
1111					20					25					30		
1112		Gly	Gln	Ala	Arg	Asn	Thr	Leu	Met	Asp	Met	Arg	Leu	Ser	Gln	Val	Se
1113				35					40					45			
1114		Asp	Ser	Val	Ser	Gly	Gln	Thr	Val	Val	Asp	Pro	Lys	Gly	Tyr	Leu	Th
1115			50					55					60				
1116		Asp	Leu	Asn	Ser	Met	Ile	Pro	Thr	His	Gly	Gly	Asp	Ile	Asn	Asp	Il
1117		65					70					75					8
1118		Lys	Lys	Ala	Arg	Leu	Leu	Leu	Lys	Ser	Val	Arg	Glu	Thr	Asn	Pro	Hi
E-->	**1119**					**85**					**90**					**95**	
1120		His	Pro	Pro	Ala	Trp	Ile	Ala	Ser	Ala	Arg	Leu	Glu	Glu	Val	Thr	Gl
1121					100					105					110		
1122		Lys	Leu	Gln	Val	Ala	Arg	Asn	Leu	Ile	Met	Lys	Gly	Thr	Glu	Met	Cy
1123				115					120					125			
1124		Pro	Lys	Ser	Glu	Asp	Val	Trp	Leu	Glu	Ala	Ala	Arg	Leu	Gln	Pro	Gl
1125			130					135					140				
1126		Asp	Thr	Ala	Lys	Ala	Val	Val	Ala	Gln	Ala	Val	Arg	His	Leu	Pro	Gl
1127		145					150					155					16
1128		Ser	Val	Arg	Ile	Tyr	Ile	Arg	Ala	Ala	Glu	Leu	Glu	Thr	Asp	Ile	Ar
E-->	**1129**					**165**					**170**					**175**	
1130		Ala	Lys	Lys	Arg	Val	Leu	Arg	Lys	Ala	Leu	Glu	His	Val	Pro	Asn	Se
1131					180					185					190		
1132		Val	Arg	Leu	Trp	Lys	Ala	Ala	Val	Glu	Leu	Glu	Glu	Pro	Glu	Asp	Al
1133				195					200					205			
1134		Arg	Ile	Met	Leu	Ser	Arg	Ala	Val	Glu	Cys	Cys	Pro	Thr	Ser	Val	Gl
1135			210					215					220				
1136		Leu	Trp	Leu	Ala	Leu	Ala	Arg	Leu	Glu	Thr	Tyr	Glu	Asn	Ala	Arg	Ly
1137		225					230					235					24
1138		Val	Leu	Asn	Lys	Ala	Arg	Glu	Asn	Ile	Pro	Thr	Asp	Arg	His	Ile	Tr
E-->	**1139**					**245**					**250**					**255**	
1140		Ile	Thr	Ala	Ala	Lys	Leu	Glu	Glu	Ala	Asn	Gly	Asn	Thr	Gln	Met	Va
1141					260					265					270		
1142		Glu	Lys	Ile	Ile	Asp	Arg	Ala	Ile	Thr	Ser	Leu	Arg	Ala	Asn	Gly	Va
1143				275					280					285			
1144		Glu	Ile	Asn	Arg	Glu	Gln	Trp	Ile	Gln	Asp	Ala	Glu	Glu	Cys	Asp	Ar
1145			290					295					300				
1146		Ala	Gly	Ser	Val	Ala	Thr	Cys	Gln	Ala	Val	Met	Arg	Ala	Val	Ile	Gl
1147		305					310					315					32
1148		Ile	Gly	Ile	Glu	Glu	Glu	Asp	Arg	Lys	His	Thr	Trp	Met	Glu	Asp	Al
E-->	**1149**					**325**					**330**					**335**	
1150		Asp	Ser	Cys	Val	Ala	His	Asn	Ala	Leu	Glu	Cys	Ala	Arg	Ala	Ile	Ty
1151					340					345					350		
1152		Ala	Tyr	Ala	Leu	Gln	Val	Phe	Pro	Ser	Lys	Lys	Ser	Val	Trp	Leu	Ar
1153				355					360					365			
1154		Ala	Ala	Tyr	Phe	Glu	Lys	Asn	His	Gly	Thr	Arg	Glu	Ser	Leu	Glu	Al
1155			370					375					380				

RAW SEQUENCE LISTING
PATENT APPLICATION **US/09/646,569**

Input Set: **I646569.RAW**

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      1156          Leu  Leu  Gln  Arg  Ala  Val  Ala  His  Cys  Pro  Lys  Ala  Glu  Val  Leu  Tr
      1157          385                    390                    395                         40
      1158          Leu  Met  Gly  Ala  Lys  Ser  Lys  Trp  Leu  Ala  Gly  Asp  Val  Pro  Ala  Al
E-->  1159                               405                    410                         415
      1160          Arg  Ser  Ile  Leu  Ala  Leu  Ala  Phe  Gln  Ala  Asn  Pro  Asn  Ser  Glu  Gl
      1161                    420                    425                         430
      1162          Ile  Trp  Leu  Ala  Ala  Val  Lys  Leu  Glu  Ser  Glu  Asn  Asp  Glu  Tyr  Gl
      1163               435                    440                         445
      1164          Arg  Ala  Arg  Arg  Leu  Leu  Ala  Lys  Ala  Arg  Thr  Val  Pro  Pro  Pro  Pr
      1165               450                    455                         460
      1166          Gly  Cys  Ser
      1167          465
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      1168    <210> 181
      1169    <211> 284
      1170    <212> PRT
      1171    <213> homo sapiens
      1172    <400> 181
      1173          Val  Arg  Ala  Gly  Pro  Glu  Ala  Ala  Gly  Gln  Gly  Ala  Asp  Ser  Ala  Pr
      1174            1                    5                    10                        15
      1175          Thr  Ala  Arg  Val  Phe  Met  Lys  Ser  Val  Lys  Leu  Glu  Trp  Val  Gln  As
      1176                    20                    25                         30
      1177          Asn  Ile  Arg  Ala  Ala  Gln  Asp  Leu  Cys  Glu  Glu  Ala  Leu  Arg  His  Ty
      1178               35                    40                         45
      1179          Glu  Asp  Phe  Pro  Lys  Leu  Trp  Met  Met  Lys  Gly  Gln  Ile  Glu  Glu  Gl
      1180               50                    55                         60
      1181          Lys  Glu  Met  Met  Glu  Lys  Ala  Arg  Glu  Ala  Tyr  Asn  Gln  Gly  Leu  Ly
      1182            65                    70                         75                        8
      1183          Lys  Cys  Pro  His  Ser  Thr  Pro  Leu  Trp  Leu  Leu  Leu  Ser  Arg  Leu  Gl
E-->  1184                               85                    90                         95
      1185          Glu  Lys  Ile  Gly  Gln  Leu  Thr  Arg  Ala  Arg  Ala  Ile  Leu  Glu  Lys  Se
      1186                    100                   105                        110
      1187          Arg  Leu  Lys  Asn  Pro  Lys  Asn  Pro  Gly  Leu  Trp  Leu  Glu  Ser  Val  Ar
      1188               115                   120                        125
      1189          Leu  Glu  Tyr  Arg  Ala  Gly  Leu  Lys  Asn  Ile  Ala  Asn  Thr  Leu  Met  Al
      1190               130                   135                        140
      1191          Lys  Ala  Leu  Gln  Glu  Cys  Pro  Asn  Ser  Gly  Ile  Leu  Trp  Ser  Glu  Al
      1192          145                   150                        155                       16
      1193          Ile  Phe  Leu  Glu  Ala  Arg  Pro  Gln  Arg  Arg  Thr  Lys  Ser  Val  Asp  Al
E-->  1194                               165                   170                        175
      1195          Leu  Lys  Lys  Cys  Glu  His  Asp  Pro  His  Val  Leu  Leu  Ala  Val  Ala  Ly
      1196                    180                   185                        190
      1197          Leu  Phe  Trp  Ser  Gln  Arg  Lys  Ile  Thr  Lys  Ala  Arg  Glu  Trp  Phe  Hi
      1198               195                   200                        205
      1199          Arg  Thr  Val  Lys  Ile  Asp  Ser  Asp  Leu  Gly  Asp  Ala  Trp  Ala  Phe  Ph
      1200               210                   215                        220
      1201          Tyr  Lys  Phe  Glu  Leu  Gln  His  Gly  Thr  Glu  Glu  Gln  Gln  Glu  Glu  Va
      1202          225                   230                        235                       24
      1203          Arg  Lys  Arg  Cys  Glu  Ser  Ala  Glu  Pro  Arg  His  Gly  Glu  Leu  Trp  Cy
E-->  1204                               245                   250                        255
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1205          Ala  Val  Ser  Lys  Asp  Ile  Ala  Asn  Trp  Gln  Lys  Lys  Ile  Gly  Asp  Il
1206                          260                     265                     270
1207          Leu  Arg  Leu  Val  Ala  Gly  Arg  Ile  Lys  Asn  Thr  Phe
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1212 <213> homo sapiens
1213 <400> 184

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1216          Ile  Asp  Val  Ala  Arg  Val  Thr  Phe  Asp  Leu  Tyr  Lys  Leu  Asn  Pro  Gl
1217                          20                     25                     30
1218          Asp  Phe  Ile  Gly  Cys  Leu  Asn  Val  Lys  Ala  Thr  Phe  Tyr  Asp  Thr  Ty
1219                    35                     40                     45
1220          Ser  Leu  Ser  Tyr  Asp  Leu  His  Cys  Cys  Gly  Ala  Lys  Arg  Ile  Met  Ly
1221                50                     55                     60
1222          Glu  Ala  Phe  Arg  Trp  Ala  Leu  Phe  Ser  Met  Gln  Ala  Thr  Gly  His  Va
1223            65                     70                     75                     8
1224          Leu  Leu  Gly  Thr  Ser  Cys  Tyr  Leu  Gln  Gln  Leu  Leu  Asp  Ala  Thr  Gl
E--> 1225                         85                     90                     95
1226          Glu  Gly  Gln  Pro  Pro  Lys  Gly  Lys  Ala  Ser  Ser  Leu  Ile  Pro  Thr  Cy
1227                          100                    105                    110
1228          Leu  Lys  Ile  Leu  Gln
1229                    115
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1230 <210> 185
1231 <211> 143
1232 <212> PRT
1233 <213> homo sapiens
1234 <400> 185

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1236            1                   5                     10                    15
1237          His  Pro  Tyr  Phe  Ile  Asn  Arg  Gln  Asp  Phe  Pro  Cys  Ile  Leu  Leu  Ar
1238                          20                     25                     30
1239          Ile  Ser  Ser  Ser  His  Ser  Pro  Ala  Pro  Ser  Pro  Met  Ser  Trp  Leu  Hi
1240                    35                     40                     45
1241          His  Cys  Lys  Thr  Asp  Leu  Leu  Gln  Gly  Ser  Gln  Lys  Leu  Leu  Leu  Al
1242                50                     55                     60
1243          Leu  Tyr  His  Phe  Tyr  Pro  His  Leu  Pro  Pro  Glu  Thr  Ala  Thr  Ile  Hi
1244            65                     70                     75                     8
1245          Ser  His  Cys  Pro  Ser  Ala  Leu  Arg  Pro  Ser  Ser  Arg  Ala  Asp  Gly  Se
E--> 1246                         85                     90                     95
1247          Met  Val  Ile  Leu  Ser  Trp  Val  Val  Leu  Leu  Lys  Pro  Ser  Gln  Gly  Al
1248                          100                    105                    110
1249          Asp  Ser  Gln  Arg  Ala  Ser  Arg  Val  Ser  Gly  Leu  Asp  Asp  Ser  Lys  Gl
1250                    115                    120                    125
1251          Gly  Thr  Pro  Ile  Phe  Ile  Phe  Lys  Thr  Asp  Ile  Pro  Arg  Gly  Phe
1252                130                    135                    140
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1253 <210> 187
1254 <211> 114
1255 <212> PRT
1256 <213> homo sapiens
1257 <400> 187

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1260		Thr	Ser	Thr	Ser	Lys	Glu	Gln	Thr	Asn	Trp	Arg	Asn	Val	Cys	Phe	Ph
1261					20					25					30		
1262		Phe	Leu	Phe	Ile	Lys	Phe	Tyr	Ser	Thr	Ala	Lys	Phe	Gln	Ile	Ser	Ph
1263				35					40					45			
1264		Thr	Tyr	Arg	Pro	Cys	Lys	Gly	Thr	Val	Arg	Thr	Glu	His	Leu	Phe	Ty
1265			50					55					60				
1266		Leu	Arg	Asp	Lys	Gly	Val	Glu	Ile	Phe	Ser	Leu	Asn	Phe	Ile	Arg	Ly
1267		65					70					75					8
1268		Gly	Trp	Val	Gln	Trp	Leu	Met	Pro	Val	Ile	Ser	Ala	Phe	Trp	Glu	Al
E-->	**1269**					**85**					**90**					**95**	
1270		Glu	Ala	Gly	Arg	Ser	Leu	Val	Ala	Arg	Ser	Leu	Arg	Pro	Ala	Trp	Al
1271					100					105					110		
1272		Thr	Gln														

1273 <210> 188
1274 <211> 98
1275 <212> PRT
1276 <213> homo sapiens
1277 <400> 188

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1279		1				5					10					15	
1280		Ser	Leu	Leu	Val	Glu	Val	Ile	Asn	Arg	Phe	Lys	Glu	Lys	Ile	Leu	Al
1281					20					25					30		
1282		Val	Asn	Pro	Gln	Cys	Leu	Gln	Leu	Phe	Trp	Gln	Asn	Ile	Phe	Lys	Gl
1283				35					40					45			
1284		Ile	Gln	Gln	Ala	Asn	Phe	Glu	Val	Leu	Met	Lys	Val	Lys	Glu	Gly	Gl
1285			50					55					60				
1286		Ile	Ser	Ser	Phe	Gly	Arg	Asn	Glu	Lys	Cys	Leu	Thr	Arg	Asp	Ile	Th
1287		65					70					75					8
1288		Thr	His	Val	Gly	Ser	Gly	Cys	Phe	Leu	Pro	Lys	Thr	Phe	Arg	Glu	Gl
E-->	**1289**					**85**					**90**					**95**	
1290		Val	Asn														

1291 <210> 189
1292 <211> 437
1293 <212> PRT
1294 <213> homo sapiens
1295 <400> 189

1296		Lys	Tyr	Glu	Leu	Tyr	Thr	Glu	Asn	Ala	Thr	Thr	Glu	Lys	Thr	Glu	P
1297		1				5					10					15	
1298		Asn	Ser	Gln	Glu	Asp	Lys	Asn	Asp	Gly	Gly	Lys	Ser	Arg	Lys	Gly	A
1299					20					25					30		

RAW SEQUENCE LISTING
PATENT APPLICATION **US/09/646,569**

Input Set: **I646569.RAW**

	1300		Ile	Glu	Leu	Ala	Ser	Ser	Glu	Pro	Gln	His	Phe	Thr	Thr	Thr	Val	Th
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	1302		Arg	Cys	Ser	Pro	Thr	Val	Ala	Phe	Val	Glu	Phe	Pro	Ser	Ser	Pro	Gl
	1303			50					55					60				
	1304		Leu	Lys	Asn	Asp	Val	Ser	Glu	Glu	Lys	Asp	Gln	Lys	Lys	Pro	Glu	As
	1305		65					70					75					8
	1306		Glu	Met	Ser	Gly	Lys	Val	Glu	Leu	Val	Leu	Ser	Gln	Lys	Val	Val	Ly
E-->	**1307**						**85**					**90**					**95**	
	1308		Pro	Lys	Ser	Pro	Glu	Pro	Glu	Ala	Thr	Leu	Thr	Phe	Pro	Phe	Leu	As
	1309					100					105					110		
	1310		Lys	Met	Pro	Glu	Ala	Asn	Gln	Leu	His	Leu	Pro	Asn	Leu	Asn	Ser	Gl
	1311				115					120					125			
	1312		Val	Asp	Ser	Pro	Ser	Ser	Glu	Lys	Ser	Pro	Val	Met	Thr	Pro	Phe	Ly
	1313			130					135					140				
	1314		Phe	Trp	Ala	Trp	Asp	Pro	Glu	Glu	Glu	Arg	Arg	Arg	Gln	Glu	Lys	Tr
	1315		145					150					155					16
	1316		Gln	Gln	Glu	Gln	Glu	Arg	Leu	Leu	Gln	Glu	Arg	Tyr	Gln	Lys	Glu	Gl
E-->	**1317**						**165**					**170**					**175**	
	1318		Asp	Lys	Leu	Lys	Glu	Glu	Trp	Glu	Lys	Ala	Gln	Lys	Glu	Val	Glu	Gl
	1319					180					185					190		
	1320		Glu	Glu	Arg	Arg	Tyr	Tyr	Glu	Glu	Glu	Arg	Lys	Ile	Ile	Glu	Asp	Th
	1321				195					200					205			
	1322		Val	Val	Pro	Phe	Thr	Val	Ser	Ser	Ser	Ser	Ala	Asp	Gln	Leu	Ser	Th
	1323			210					215					220				
	1324		Ser	Ser	Ser	Met	Thr	Glu	Gly	Ser	Gly	Thr	Met	Asn	Lys	Ile	Asp	Le
	1325		225					230					235					24
	1326		Gly	Asn	Cys	Gln	Asp	Glu	Lys	Gln	Asp	Arg	Arg	Trp	Lys	Lys	Ser	Ph
E-->	**1327**						**245**					**250**					**255**	
	1328		Gln	Gly	Asp	Asp	Ser	Asp	Leu	Leu	Leu	Lys	Thr	Arg	Glu	Ser	Asp	Ar
	1329					260					265					270		
	1330		Leu	Glu	Glu	Lys	Gly	Ser	Leu	Thr	Glu	Gly	Ala	Leu	Ala	His	Ser	Gl
	1331				275					280					285			
	1332		Asn	Pro	Val	Ser	Lys	Gly	Val	His	Glu	Asp	His	Gln	Leu	Asp	Thr	Gl
	1333			290					295					300				
	1334		Ala	Gly	Ala	Pro	His	Cys	Gly	Thr	Asn	Pro	Gln	Leu	Ala	Gln	Asp	Pr
	1335		305					310					315					32
	1336		Ser	Gln	Asn	Gln	Gln	Thr	Ser	Asn	Pro	Thr	His	Ser	Ser	Glu	Asp	Va
E-->	**1337**						**325**					**330**					**335**	
	1338		Lys	Pro	Lys	Thr	Leu	Pro	Leu	Asp	Lys	Ser	Ile	Asn	His	Gln	Ile	Gl
	1339					340					345					350		
	1340		Ser	Pro	Ser	Glu	Arg	Arg	Lys	Ser	Ile	Ser	Gly	Lys	Lys	Leu	Cys	Se
	1341				355					360					365			
	1342		Ser	Cys	Gly	Leu	Pro	Leu	Gly	Lys	Gly	Ala	Ala	Met	Ile	Ile	Glu	Th
	1343			370					375					380				
	1344		Leu	Asn	Leu	Tyr	Phe	His	Ile	Gln	Cys	Phe	Arg	Cys	Gly	Ile	Cys	Ly
	1345		385					390					395					40
	1346		Gly	Gln	Leu	Gly	Asp	Ala	Val	Ser	Gly	Thr	Asp	Val	Arg	Ile	Arg	As
E-->	**1347**						**405**					**410**					**415**	
	1348		Gly	Leu	Leu	Asn	Cys	Asn	Asp	Cys	Tyr	Met	Arg	Ser	Arg	Ser	Ala	Gl
	1349					420					425					430		

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      1350          Gln  Pro  Thr  Thr  Leu
      1351                    435
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      1354  <212> PRT
      1355  <213> homo sapiens
      1356  <400> 190
      1357        Ser  Ala  Asn  His  Lys  Leu  Glu  Val  Asn  Gly  Thr  Asp  Gly  Leu  Ala  Pr
      1358          1                 5                             10                      15
      1359        Val  Glu  Val  Glu  Glu  Leu  Leu  Arg  Gln  Ala  Ser  Glu  Arg  Asn  Ser  Ly
      1360                    20                             25                      30
      1361        Ser  Pro  Thr  Glu  Tyr  His  Glu  Pro  Val  Tyr  Ala  Asn  Pro  Phe  Tyr  Ar
      1362                    35                             40                      45
      1363        Pro  Thr  Thr  Pro  Gln  Arg  Glu  Thr  Val  Thr  Pro  Gly  Pro  Asn  Phe  Gl
      1364                    50                             55                      60
      1365        Glu  Arg  Ile  Lys  Ile  Lys  Thr  Asn  Gly  Leu  Gly  Ile  Gly  Val  Asn  Gl
      1366          65                      70                             75                   8
      1367        Ser  Ile  His  Asn  Met  Gly  Asn  Gly  Leu  Ser  Glu  Glu  Arg  Gly  Asn  As
E-->  1368                          85                             90                      95
      1369        Phe  Asn  His  Ile  Ser  Pro  Ile  Pro  Pro  Val  Pro  His  Pro  Arg  Ser  Va
      1370                    100                            105                     110
      1371        Ile  Gln  Gln  Ala  Glu  Glu  Lys  Leu  His  Thr  Pro  Gln  Lys  Arg  Leu  Me
      1372                    115                            120                     125
      1373        Thr  Pro  Trp  Glu  Glu  Ser  Asn  Val  Met  Gln  Asp  Lys  Asp  Ala  Pro  Se
      1374              130                      135                            140
      1375        Pro  Lys  Pro  Arg  Leu  Ser  Pro  Arg  Glu  Thr  Ile  Phe  Gly  Lys  Ser  Gl
      1376        145                      150                            155                  16
      1377        His  Gln  Asn  Ser  Ser  Pro  Thr  Cys  Gln  Glu  Asp  Glu  Glu  Asp  Val  Ar
E-->  1378                          165                            170                     175
      1379        Tyr  Asn  Ile  Val  His  Ser  Leu  Pro  Pro  Asp  Ile  Asn  Asp  Thr  Glu  Pr
      1380                    180                            185                     190
      1381        Val  Thr  Met  Ile  Phe  Met  Gly  Tyr  Gln  Gln  Ala  Glu  Asp  Ser  Glu  Gl
      1382                    195                            200                     205
      1383        Asp  Lys  Lys  Phe  Leu  Thr  Gly  Tyr  Asp  Gly  Ile  Ile  His  Ala  Glu  Le
      1384              210                      215                            220
      1385        Val  Val  Ile  Asp  Asp  Glu  Glu  Glu  Glu  Asp  Glu  Gly  Glu  Ala  Glu  Ly
      1386        225                      230                            235                  24
      1387        Pro  Ser  Tyr  His  Pro  Ile  Ala  Pro  His  Ser  Gln  Val  Tyr  Gln  Pro  Al
E-->  1388                          245                            250                     255
      1389        Lys  Pro  Thr  Pro  Leu  Pro  Arg  Lys  Arg  Ser  Glu  Ala  Ser  Pro  His  Gl
      1390                    260                            265                     270
      1391        Asn  Thr  Asn  His  Lys  Ser  Pro  His  Lys  Asn  Ser  Ile  Ser  Leu  Lys  Gl
      1392                    275                            280                     285
      1393        Gln  Glu  Glu  Ser  Leu  Gly  Ser  Pro  Val  His  His  Ser  Pro  Phe  Asp  Al
      1394              290                      295                            300
      1395        Gln  Thr  Thr  Gly  Asp  Gly  Thr  Glu  Asp  Pro  Ser  Leu  Thr  Ala  Leu  Ar
      1396        305                      310                            315                  32
      1397        Met  Arg  Met  Ala  Lys  Leu  Gly  Lys  Lys  Val  Ile
E-->  1398                          325                            330
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1399 <210> 191
1400 <211> 216
1401 <212> PRT
1402 <213> homo sapiens
1403 <400> 191

1404		Leu	Ser	Leu	Thr	Ser	Arg	Met	Glu	Glu	Ala	Glu	Leu	Val	Lys	Gly	Ar
1405		1				5					10					15	
1406		Leu	Gln	Ala	Ile	Thr	Asp	Lys	Arg	Lys	Ile	Gln	Glu	Glu	Ile	Ser	Gl
1407					20					25					30		
1408		Lys	Arg	Leu	Lys	Ile	Glu	Glu	Asp	Lys	Leu	Lys	His	Gln	His	Leu	Ly
1409				35					40					45			
1410		Lys	Lys	Ala	Leu	Arg	Glu	Lys	Trp	Leu	Leu	Asp	Gly	Ile	Ser	Ser	Gl
1411			50					55					60				
1412		Lys	Glu	Gln	Glu	Glu	Met	Lys	Lys	Gln	Asn	Gln	Gln	Asp	Gln	His	Gl
1413		65					70					75					8
1414		Ile	Gln	Val	Leu	Glu	Gln	Ser	Ile	Leu	Arg	Leu	Glu	Lys	Glu	Ile	Gl
E-->	**1415**					**85**					**90**					**95**	
1416		Asp	Leu	Glu	Lys	Ala	Glu	Leu	Gln	Ile	Ser	Thr	Lys	Glu	Glu	Ala	Il
1417					100					105					110		
1418		Leu	Lys	Lys	Leu	Lys	Ser	Ile	Glu	Arg	Thr	Thr	Glu	Asp	Ile	Ile	Ar
1419				115					120					125			
1420		Ser	Val	Lys	Val	Glu	Arg	Glu	Glu	Arg	Ala	Glu	Glu	Ser	Ile	Glu	As
1421			130					135					140				
1422		Ile	Tyr	Ala	Asn	Ile	Pro	Asp	Leu	Pro	Lys	Ser	Tyr	Ile	Pro	Ser	Ar
1423		145					150					155					16
1424		Leu	Arg	Lys	Glu	Ile	Asn	Glu	Glu	Lys	Glu	Asp	Asp	Glu	Gln	Asn	Ar
E-->	**1425**					**165**					**170**					**175**	
1426		Lys	Ala	Leu	Tyr	Ala	Met	Glu	Ile	Lys	Val	Glu	Lys	Asp	Leu	Lys	Th
1427					180					185					190		
1428		Gly	Glu	Ser	Thr	Val	Leu	Ser	Ser	Asn	Thr	Ser	Gly	His	Gln	Met	Th
1429				195					200					205			
1430		Leu	Lys	Gly	Thr	Gly	Val	Lys	Val								
1431			210					215									

1432 <210> 192
1433 <211> 290
1434 <212> PRT
1435 <213> homo sapiens
1436 <400> 192

1437		Arg	Gly	Ala	Gly	Thr	Gln	Pro	Gly	Pro	Leu	Leu	Lys	Lys	Pro	Tyr	Gl
1438		1				5					10					15	
1439		Pro	Arg	Ile	Lys	Ile	Ser	Lys	Thr	Ser	Val	Asp	Gly	Asp	Pro	His	Ph
1440					20					25					30		
1441		Val	Val	Asp	Phe	Pro	Leu	Ser	Arg	Leu	Thr	Val	Cys	Phe	Asn	Ile	As
1442				35					40					45			
1443		Gly	Gln	Pro	Gly	Asp	Ile	Leu	Arg	Leu	Val	Ser	Asp	His	Arg	Asp	Se
1444			50					55					60				
1445		Gly	Val	Thr	Val	Asn	Gly	Glu	Leu	Ile	Gly	Ala	Pro	Ala	Pro	Pro	As
1446		65					70					75					8

Same

RAW SEQUENCE LISTING
PATENT APPLICATION **US/09/646,569**

Input Set: **I646569.RAW**

	1447	Gly	His	Lys	Lys	Gln	Arg	Thr	Tyr	Leu	Arg	Thr	Ile	Thr	Ile	Leu	Il
E-->	**1448**					**85**					**90**					**95**	
	1449	Asn	Lys	Pro	Glu	Arg	Ser	Tyr	Leu	Glu	Ile	Thr	Pro	Ser	Arg	Val	Il
	1450				100					105					110		
	1451	Leu	Asp	Gly	Gly	Asp	Arg	Leu	Val	Leu	Pro	Cys	Asn	Gln	Ser	Val	Va
	1452			115					120					125			
	1453	Val	Gly	Ser	Trp	Gly	Leu	Glu	Val	Ser	Val	Ser	Ala	Asn	Ala	Asn	Va
	1454		130					135					140				
	1455	Thr	Val	Thr	Ile	Gln	Gly	Ser	Ile	Ala	Phe	Val	Ile	Leu	Ile	His	Le
	1456	145					150					155					16
	1457	Tyr	Lys	Lys	Pro	Ala	Pro	Phe	Gln	Arg	His	His	Leu	Gly	Phe	Tyr	Il
E-->	**1458**					**165**					**170**					**175**	
	1459	Ala	Asn	Ser	Glu	Gly	Leu	Ser	Ser	Asn	Cys	His	Gly	Leu	Leu	Gly	Gl
	1460				180					185					190		
	1461	Phe	Leu	Asn	Gln	Asp	Ala	Arg	Leu	Thr	Glu	Asp	Pro	Ala	Gly	Pro	Se
	1462			195					200					205			
	1463	Gln	Asn	Leu	Thr	His	Pro	Leu	Leu	Leu	Gln	Val	Gly	Glu	Gly	Pro	Gl
	1464		210					215					220				
	1465	Ala	Val	Leu	Thr	Val	Lys	Gly	His	Gln	Val	Pro	Val	Val	Trp	Lys	Gl
	1466	225					230					235					24
	1467	Arg	Lys	Ile	Tyr	Asn	Gly	Glu	Glu	Gln	Ile	Asp	Cys	Trp	Phe	Ala	Ar
E-->	**1468**					**245**					**250**					**255**	
	1469	Asn	Asn	Ala	Ala	Lys	Leu	Ile	Asp	Gly	Glu	Tyr	Lys	Asp	Tyr	Leu	Al
	1470				260					265					270		
	1471	Ser	His	Pro	Phe	Asp	Thr	Gly	Met	Thr	Leu	Gly	Gln	Gly	Met	Ser	Ar
	1472			275					280					285			
	1473	Glu	Leu														
	1474		290														

1475 <210> 193
1476 <211> 87
1477 <212> PRT
1478 <213> homo sapiens
1479 <400> 193

Same

1480	Gly	His	Gly	Ser	Tyr	Arg	Thr	Pro	Lys	Arg	Ser	Ser	Thr	Asn	Cys	Le
1481	1				5					10					15	
1482	Gly	Lys	Phe	Trp	Glu	Leu	Ala	Asp	Ala	Lys	Lys	Lys	Arg	Lys	Lys	Va
1483				20					25					30		
1484	His	Gln	Lys	Gln	Lys	Arg	Ala	Thr	Ile	Arg	Ala	Thr	Glu	Leu	Ala	Ly
1485			35					40					45			
1486	Gly	Lys	Arg	His	Val	Gly	Gly	Ser	Val	Ser	His	Leu	Ser	Pro	Gly	Th
1487		50					55					60				
1488	Val	Lys	Cys	Val	Ile	Thr	Ala	Gln	Val	His	Gly	Lys	Arg	Gln	Gln	Gl
1489	65					70					75					8
1490	Lys	Ala	Leu	Cys	Arg	Leu	Glu									
E--> **1491**					**85**											

1492 <210> 195
1493 <211> 251
1494 <212> PRT

1495 <213> homo sapiens
1496 <400> 195

1497	Asp	Asp	Arg	Ser	His	Ala	Phe	His	His	His	Lys	Ser	Val	Ile	Asp	Al
1498	1				5					10					15	
1499	Met	Lys	Gly	Arg	Pro	Gly	Gln	Ser	Pro	Leu	Phe	Arg	Pro	Ser	Gln	Gl
1500				20					25					30		
1501	Thr	Gly	Arg	Val	Pro	Gly	Thr	Arg	Gln	Met	Leu	Gln	Asp	Ser	Val	Gl
1502			35					40					45			
1503	Ala	Ala	Leu	Glu	Glu	Val	Ala	Ala	Ser	Glu	Ala	Leu	Leu	Gly	Pro	Le
1504		50					55					60				
1505	Ser	Pro	Pro	Gly	Lys	Ser	Arg	Asp	Gly	Asn	Ala	Ser	Ala	Gly	Glu	Gl
1506	65					70					75					8
1507	Cys	Gln	Val	Phe	Arg	Ser	Pro	Pro	Ser	Glu	Val	Pro	Ser	Pro	Pro	Gl
E--> **1508**					**85**					**90**					**95**	
1509	Gln	Asp	Thr	Pro	Thr	Ser	Thr	Phe	Leu	Lys	Arg	Arg	Trp	Asp	Ser	Gl
1510				100					105					110		
1511	Val	Thr	Leu	Leu	Pro	Ser	Lys	Lys	Cys	Lys	Ser	Gln	Gln	Leu	Gln	Gl
1512			115					120					125			
1513	Ser	Val	Ser	Gln	Phe	Pro	Pro	Ser	Pro	Gly	Gly	Arg	Arg	Glu	Gly	Pr
1514		130					135					140				
1515	Trp	Ser	Ser	Leu	Gly	Ala	Gly	Gly	Pro	Ser	Ser	His	Ile	Ser	Ala	Ly
1516	145					150					155					16
1517	Tyr	Phe	Pro	Leu	Pro	Val	Gln	Pro	Ala	Cys	Pro	Cys	Thr	Ser	Leu	Gl
E--> **1518**					**165**					**170**					**175**	
1519	Ala	Gly	His	Arg	Pro	Gly	Arg	Cys	Val	Asp	Leu	Gln	Glu	Ser	Gln	Gl
1520				180					185					190		
1521	Val	Asp	His	Pro	Ala	Asn	Leu	Arg	Leu	Ser	Ser	Gly	Thr	Ser	Cys	Ar
1522			195					200					205			
1523	Arg	Gly	Leu	Asn	Pro	Thr	Pro	Val	Gln	Val	Arg	Ser	His	Glu	Ala	Se
1524		210					215					220				
1525	Ser	Gln	Val	Lys	Met	His	Gln	Thr	Val	Thr	Trp	Arg	Phe	Tyr	Thr	Ph
1526	225					230					235					24
1527	Leu	Asn	Phe	Gln	Gln	Leu	Gly	Ala	Cys	Leu	Leu					
E--> **1528**					**245**					**250**						

1529 <210> 196
1530 <211> 149
1531 <212> PRT
1532 <213> homo sapiens
1533 <400> 196

1534	Phe	Ala	Lys	Gly	Leu	Asp	Arg	Glu	Arg	Gly	Asn	Met	Asn	Leu	Asp	Ar
1535	1				5					10					15	
1536	Glu	Gly	Asp	Thr	Ile	Glu	Arg	Arg	Thr	Leu	Pro	Thr	Leu	Gln	Ala	Se
1537				20					25					30		
1538	Asp	Leu	Pro	Phe	Glu	Gly	Thr	Leu	Asp	Gly	Gly	Arg	Gly	Arg	Gly	Le
1539			35					40					45			
1540	Gly	Leu	Ser	Tyr	Ser	His	Glu	Leu	Leu	Ala	Ser	Thr	Asp	Ser	Ser	A
1541		50					55					60				
1542	Ser	Pro	Pro	His	Lys	Ile	Thr	Gly	Thr	Asn	Ile	Phe	Asn	Phe	Ala	Ty
1543	65					70					75					8

RAW SEQUENCE LISTING
PATENT APPLICATION **US/09/646,569**

Input Set: **I646569.RAW**

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      1544          Leu  Phe  Leu  Gly  Glu  Phe  Pro  Pro  Ser  Leu  Phe  Cys  Pro  Glu  Thr  Th
E-->  1545                               85                              90                   95
      1546          Gly  Lys  Ala  Leu  His  Phe  Glu  Arg  Glu  Glu  Lys  Leu  Phe  Gly  Thr  Th
      1547                         100                             105                  110
      1548          Pro  Met  Ile  Phe  Phe  Phe  Val  Ile  Leu  Glu  Ile  Tyr  Phe  Phe  Ile  Il
      1549                    115                             120                  125
      1550          Leu  Ile  Ala  Asp  Val  Leu  Phe  Ile  Tyr  Leu  Ile  Cys  Ile  Arg  Ser  Le
      1551               130                             135                  140
      1552          Asn  Asn  Arg  Lys  Leu
      1553          145
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      1555    <211> 143
      1556    <212> PRT
      1557    <213> homo sapiens
      1558    <400> 197
      1559          Gly  Gln  Arg  Cys  Pro  Arg  Gly  Thr  Asp  Leu  Pro  Glu  Ala  Pro  Thr  Le
      1560            1                   5                             10                   15
      1561          Pro  Leu  Trp  Val  Asn  His  Phe  Ser  Pro  Gly  Leu  Ser  Leu  Arg  Leu  Hi
      1562                         20                             25                   30
      1563          Gln  Leu  Val  Gly  Leu  Gln  Ala  Ser  Pro  Pro  Asp  Ser  Pro  His  Cys  Tr
      1564                    35                             40                   45
      1565          Ala  Thr  Leu  Asn  Leu  Lys  Phe  His  Cys  Pro  Ala  Pro  Pro  Thr  Pro  Th
      1566               50                             55                   60
      1567          Pro  Lys  Phe  Pro  Lys  Glu  Met  Ser  Lys  Thr  His  Ala  His  Thr  Tyr  Il
      1568            65                        70                   75                        8
      1569          His  Thr  Cys  Thr  Cys  Ala  His  Thr  Ser  Cys  Val  Thr  Thr  Gly  Gln  Gl
E-->  1570                               85                              90                   95
      1571          Asn  Ala  Ser  Leu  Arg  Ile  Pro  Gly  Pro  Gly  Pro  Gly  Val  Lys  Gly  Cy
      1572                         100                             105                  110
      1573          Ser  Gly  Thr  Leu  Pro  Pro  Asn  Leu  Leu  Gly  Gly  Pro  Pro  Ser  Val  Gl
      1574                    115                             120                  125
      1575          Ala  Gly  Leu  Gly  Val  Cys  Leu  Asp  Ser  Gln  Asp  Leu  Pro  Arg  Ser
      1576               130                             135                  140
```

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      1577    <210> 198
      1578    <211> 142
      1579    <212> PRT
      1580    <213> homo sapiens
      1581    <400> 198
      1582          Ser  His  Thr  Met  His  Cys  Lys  Glu  Thr  Lys  Gln  Leu  Tyr  Arg  Ser  Gl
      1583            1                   5                             10                   15
      1584          Asp  Ala  Ser  Val  Tyr  Asn  Thr  Phe  Met  Ser  Arg  Ile  Arg  Ser  Arg  Hi
      1585                         20                             25                   30
      1586          Gln  Asp  Leu  Tyr  Thr  Val  Ala  Ala  Ala  Ile  Gly  Thr  Met  Ile  Gln  As
      1587                    35                             40                   45
      1588          Ile  Lys  Tyr  Ile  Ser  Ile  Tyr  Ile  Asn  Thr  Gln  Leu  Gly  Trp  Gly  Ar
      1589               50                             55                   60
      1590          Met  Leu  Gly  Asp  Leu  Val  Ser  Pro  Ala  Glu  Gly  Leu  Gly  Gly  Arg  Gl
      1591            65                        70                   75                        8
```

RAW SEQUENCE LISTING
PATENT APPLICATION **US/09/646,569**

Input Set: **I646569.RAW**

```
      1592          Gly  Gly  Gly  Lys  Gly  Phe  Leu  Thr  Phe  Val  Leu  Asn  Asp  Gly  Ser  Gl
E-->  1593                              85                        90                        95
      1594          Gly  Arg  Arg  Glu  Met  Gly  Lys  His  Ser  Leu  His  Thr  Leu  Met  Cys  Se
      1595                    100                             105                       110
      1596          His  Thr  His  Ala  Gln  Thr  Lys  His  Arg  His  Arg  Arg  Val  Ser  Asn  Se
      1597                    115                             120                       125
      1598          Leu  Thr  Leu  Ile  Gly  Lys  Gln  Ala  Trp  Asp  Ile  Pro  Leu  Gln
      1599               130                             135                       140
```

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      1600  <210> 199
      1601  <211> 189
      1602  <212> PRT
      1603  <213> homo sapiens
      1604  <400> 199
      1605          Gln  Cys  Arg  Gly  Phe  Asn  Leu  Lys  Ala  Tyr  Arg  Asn  Ala  Ala  Glu  Il
      1606            1                   5                        10                        15
      1607          Val  Gln  Tyr  Gly  Val  Lys  Asn  Asn  Thr  Thr  Phe  Leu  Glu  Cys  Ala  Pr
      1608                    20                             25                        30
      1609          Lys  Ser  Pro  Gln  Ala  Ser  Ile  Lys  Trp  Leu  Leu  Gln  Lys  Asp  Lys  As
      1610                    35                             40                        45
      1611          Arg  Arg  Lys  Glu  Val  Lys  Leu  Asn  Glu  Arg  Ile  Ile  Ala  Thr  Ser  Gl
      1612               50                             55                        60
      1613          Gly  Leu  Leu  Ile  Arg  Ser  Val  Gln  Gly  Ser  Asp  Gln  Gly  Leu  Tyr  Hi
      1614            65                             70                        75                  8
      1615          Cys  Ile  Ala  Thr  Glu  Asn  Ser  Phe  Lys  Gln  Thr  Ile  Ala  Lys  Ile  As
E-->  1616                              85                        90                        95
      1617          Phe  Lys  Val  Leu  Asp  Ser  Glu  Met  Val  Ala  Val  Val  Thr  Asp  Lys  Tr
      1618                    100                             105                       110
      1619          Ser  Pro  Trp  Thr  Trp  Ala  Ser  Ser  Val  Arg  Ala  Leu  Pro  Phe  His  Pr
      1620                    115                             120                       125
      1621          Lys  Asp  Ile  Met  Gly  Ala  Phe  Ser  His  Ser  Glu  Met  Gln  Met  Ile  As
      1622               130                             135                       140
      1623          Gln  Tyr  Cys  Lys  Asp  Thr  Arg  Gln  Gln  His  Gln  Gln  Gly  Asp  Glu  Se
      1624          145                             150                       155                 16
      1625          Gln  Lys  Met  Arg  Gly  Asp  Tyr  Gly  Lys  Leu  Lys  Ala  Leu  Ile  Asn  Se
E-->  1626                              165                       170                       175
      1627          Arg  Lys  Ser  Arg  Asn  Arg  Arg  Asn  Gln  Leu  Pro  Glu  Ser
      1628                    180                             185
```

```
      1629  <210> 200
      1630  <211> 97
      1631  <212> PRT
      1632  <213> homo sapiens
      1633  <400> 200
      1634          Phe  Phe  Arg  Glu  Ala  Glu  Ser  Pro  Phe  Val  Ala  Arg  Leu  Glu  Cys  Se
      1635            1                   5                        10                        15
      1636          Gly  Ala  Ile  Ser  Ala  His  Cys  Ser  Thr  Val  Ser  Ala  His  Cys  Ser  Le
      1637                    20                             25                        30
      1638          Arg  Pro  Pro  Val  Phe  Lys  Arg  Phe  Ser  Cys  Leu  Ser  Leu  Leu  Ser  Se
      1639                    35                             40                        45
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RAW SEQUENCE LISTING
PATENT APPLICATION **US/09/646,569**

same

Input Set: **I646569.RAW**

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      1640          Trp Asp Tyr Arg Cys Ala Pro Pro Arg Pro Ala Asn Phe Cys Ile Ph
      1641                  50                  55                  60
      1642          Ser Arg Asp Gly Val Ser Leu Cys Trp Pro Gly Trp Ser Gln Ser Ar
      1643           65                 70                  75                  8
      1644          Pro Arg Asp Pro Ala His Leu Gly Leu Pro Lys Cys Trp Asp Tyr Ar
E-->  1645                          85                  90                  95
E-->  1646          Xxx use Xaa, instead, AND explain in (2207-2237
                                                (see item 10 on Error Summary sheet) section
      1647  <210> 201
      1648  <211> 250
      1649  <212> PRT
      1650  <213> homo sapiens
      1651  <400> 201
      1652          Glu Thr Arg Val Lys Thr Ser Leu Glu Leu Leu Arg Thr Gln Leu Gl
      1653           1                  5                  10                  15
      1654          Pro Thr Gly Thr Val Gly Asn Thr Ile Met Thr Ser Gln Pro Val Pr
      1655                      20                  25                  30
      1656          Asn Glu Thr Ile Ile Val Leu Pro Ser Asn Val Ile Asn Phe Ser Gl
      1657                  35                  40                  45
      1658          Ala Glu Lys Pro Glu Pro Thr Asn Gln Gly Gln Asp Ser Leu Lys Ly
      1659                  50                  55                  60
      1660          His Leu His Ala Glu Ile Lys Val Ile Gly Thr Ile Gln Ile Leu Cy
      1661           65                 70                  75                  8
      1662          Gly Met Met Val Leu Ser Leu Gly Ile Ile Leu Ala Ser Ala Ser Ph
E-->  1663                          85                  90                  95
      1664          Ser Pro Asn Phe Thr Gln Val Thr Ser Thr Leu Leu Asn Ser Ala Ty
      1665                  100                 105                 110
      1666          Pro Phe Ile Gly Pro Phe Phe Phe Ile Ile Ser Gly Ser Leu Ser Il
      1667                  115                 120                 125
      1668          Ala Thr Glu Lys Arg Leu Thr Lys Leu Leu Val His Ser Ser Leu Va
      1669                  130                 135                 140
      1670          Gly Ser Ile Leu Ser Ala Leu Ser Ala Leu Val Gly Phe Ile Ile Le
      1671          145                 150                 155                 16
      1672          Ser Val Lys Gln Ala Thr Leu Asn Pro Ala Ser Leu Gln Cys Glu Le
E-->  1673                          165                 170                 175
      1674          Asp Lys Asn Asn Ile Pro Thr Arg Ser Tyr Val Ser Tyr Phe Tyr Hi
      1675                  180                 185                 190
      1676          Asp Ser Leu Tyr Thr Thr Asp Cys Tyr Thr Ala Lys Ala Ser Leu Al
      1677                  195                 200                 205
      1678          Gly Thr Leu Ser Leu Met Leu Ile Cys Thr Leu Leu Glu Phe Cys Le
      1679                  210                 215                 220
      1680          Ala Val Leu Thr Ala Val Leu Arg Trp Lys Gln Ala Tyr Ser Asp Ph
      1681          225                 230                 235                 24
      1682          Pro Gly Val Ser Val Leu Ala Gly Phe Thr
E-->  1683                          245                 250

      1684  <210> 202
      1685  <211> 104
      1686  <212> PRT
      1687  <213> homo sapiens
```

same

```
1688  <400> 202
1689        Glu  Lys  Thr  Pro  Gly  Phe  Glu  Trp  Lys  Leu  Thr  Ala  Glu  Ser  His  Ar
1690          1                    5                    10                        15
1691        Pro  Arg  Gln  Gln  Gln  Arg  Gln  Gln  Gln  Thr  Phe  Gly  Ile  Leu  Phe  Se
1692                         20                   25                        30
1693        Thr  His  Val  Leu  Ile  Ile  His  Leu  Ile  Ile  Phe  Leu  Val  Glu  Lys  Le
1694                   35                   40                        45
1695        Gln  Ile  Ser  Leu  Phe  Asn  Ile  Tyr  Ile  Gln  Phe  Asn  Lys  Pro  Leu  Al
1696              50                   55                        60
1697        Ser  Tyr  Leu  Phe  Ser  His  Leu  Arg  Tyr  Phe  Phe  Pro  Pro  His  Leu  Al
1698          65                   70                        75                        8
1699        Pro  Val  Pro  Pro  Phe  Leu  Phe  Ser  Leu  Cys  Lys  Arg  Lys  Tyr  Leu  Th
E--> 1700                        85                        90                        95
1701        Tyr  Leu  Gly  Pro  Thr  Ser  Ile  Met
1702                   100
```

---

same

```
1703  <210> 203
1704  <211> 93
1705  <212> PRT
1706  <213> homo sapiens
1707  <400> 203
1708        His  Lys  Lys  Asn  Phe  Trp  Gln  Ile  Phe  Ile  Gln  Ile  Ala  Cys  Leu  Gl
1709          1                    5                    10                        15
1710        Trp  Gln  Ile  Ser  Gln  His  Phe  Ser  Leu  Phe  Cys  Leu  Cys  Leu  Ser  Le
1711                         20                   25                        30
1712        Cys  Ile  Phe  Leu  Glu  Arg  Lys  Leu  Asn  Ala  Phe  Asn  Val  Leu  Ile  Il
1713                   35                   40                        45
1714        Thr  Leu  Leu  Lys  Leu  Asp  Pro  Asn  Met  Leu  Asn  Ile  Ser  Ser  Cys  Ly
1715              50                   55                        60
1716        Gly  Arg  Arg  Gly  Arg  Glu  Glu  Gln  Gly  Gln  Gly  Gly  Glu  Glu  Lys  As
1717          65                   70                        75                        8
1718        Thr  Ser  Gly  Glu  Arg  Thr  Ser  Asn  Leu  Gln  Glu  Ala  Tyr
E--> 1719                        85                        90
```

---

same

```
1720  <210> 204
1721  <211> 113
1722  <212> PRT
1723  <213> homo sapiens
1724  <400> 204
1725        Arg  Pro  Lys  Pro  Gly  His  Pro  Leu  Tyr  Ser  Lys  Tyr  Met  Arg  Gly  As
1726          1                    5                    10                        15
1727        Val  Leu  Val  Met  Leu  Lys  Gln  Thr  Glu  Asn  Asn  Tyr  Leu  Glu  Cys  Gl
1728                         20                   25                        30
1729        Lys  Gly  Glu  Asp  Thr  Gly  Arg  Val  His  Leu  Ser  Gln  Met  Lys  Ile  Il
1730                   35                   40                        45
1731        Thr  Pro  Leu  Asp  Glu  His  Leu  Arg  Ser  Arg  Pro  Asn  Asp  Pro  Ser  Hi
1732              50                   55                        60
1733        Ala  Gln  Lys  Pro  Val  Asp  Ser  Gly  Ala  Pro  His  Ala  Val  Val  Leu  Hi
1734          65                   70                        75                        8
1735        Asp  Phe  Pro  Ala  Glu  Gln  Val  Asp  Asp  Leu  Asn  Leu  Thr  Ser  Gly  Gl
```

RAW SEQUENCE LISTING
PATENT APPLICATION **US/09/646,569**

Same

Input Set: **I646569.RAW**

```
E--> 1736                                   85                  90                  95
     1737       Ile Gly Leu Ser Ser Gly Glu Asp Arg Tyr Arg Leu Val Gln Arg Gl
     1738                   100                 105                 110
     1739       Leu
```

```
     1740  <210> 205
     1741  <211> 225
     1742  <212> PRT
     1743  <213> homo sapiens
     1744  <400> 205
     1745       Thr Ser Leu Leu Glu Lys Leu Val Tyr Leu Leu Glu Lys Ile Asp Th
     1746         1               5                  10                  15
     1747       Asp Trp Tyr Arg Gly Asn Cys Arg Asn Gln Ile Gly Ile Phe Pro Al
     1748                   20                  25                  30
     1749       Asn Tyr Val Lys Val Ile Ile Asp Ile Pro Glu Gly Gly Asn Gly Ly
     1750                   35                  40                  45
     1751       Arg Glu Cys Val Ser Ser His Cys Val Lys Gly Ser Arg Cys Val Al
     1752             50                  55                  60
     1753       Arg Phe Glu Tyr Ile Gly Glu Gln Lys Asp Glu Leu Ser Phe Ser Gl
     1754         65                  70                  75                  8
     1755       Gly Glu Ile Ile Ile Leu Lys Glu Tyr Val Asn Glu Glu Trp Ala Ar
E--> 1756                   85                  90                  95
     1757       Gly Glu Val Arg Gly Arg Thr Gly Ile Phe Pro Leu Asn Phe Val Gl
     1758                   100                 105                 110
     1759       Pro Val Glu Asp Tyr Pro Thr Ser Gly Ala Asn Val Leu Ser Thr Ly
     1760                   115                 120                 125
     1761       Val Pro Leu Lys Thr Lys Lys Glu Asp Ser Gly Ser Asn Ser Gln Va
     1762             130                 135                 140
     1763       Asn Ser Leu Pro Ala Glu Trp Cys Glu Ala Leu His Ser Phe Thr Al
     1764       145                 150                 155                 16
     1765       Glu Thr Ser Asp Asp Leu Ser Phe Lys Arg Gly Asp Arg Ile Gln Il
E--> 1766                   165                 170                 175
     1767       Leu Glu Arg Leu Asp Ser Asp Trp Cys Arg Gly Arg Leu Gln Asp Ar
     1768                   180                 185                 190
     1769       Glu Gly Ile Phe Pro Ala Val Phe Val Arg Pro Cys Pro Ala Glu Al
     1770                   195                 200                 205
     1771       Lys Ser Met Leu Ala Ile Val Pro Lys Gly Gln Glu Gly Gln Ser Le
     1772             210                 215                 220
     1773       Ile
     1774       225
```

```
     1775  <210> 206
     1776  <211> 105
     1777  <212> PRT
     1778  <213> homo sapiens
     1779  <400> 206
     1780       Cys Ile Gly Phe Ser Ser Gly Phe Asp Lys Val Lys Arg Ile Val Th
     1781         1               5                  10                  15
     1782       Arg Val Thr Gln Thr Cys Gln Leu Ser Glu Ser Leu Val Val Lys P
     1783                   20                  25                  30
```

RAW SEQUENCE LISTING
PATENT APPLICATION **US/09/646,569**

same

Input Set: **I646569.RAW**

```
      1784          Glu Leu Gly Lys Leu Ser Leu Arg Arg Leu Lys Glu Arg Ala Gln Va
      1785                  35                  40                  45
      1786          Gly Ile Cys Val Ile Thr Val Leu Leu Pro Arg His Gly Val Asp As
      1787              50                  55                  60
      1788          Lys Ile Pro Leu Gln Ser Thr Gly Val Ser Val Arg Leu Val Leu Gl
      1789              65                  70                  75                  8
      1790          Lys Ala Ala His Trp Glu Trp Gly Gly Ala Cys Gly Lys Pro Asp Cy
E-->  1791                  85                  90                  95
      1792          Gly Glu Lys Leu Gly Glu Asn Gly Ser
      1793                  100                 105
```

---

same

```
      1794  <210> 208
      1795  <211> 581
      1796  <212> PRT
      1797  <213> homo sapiens
      1798  <400> 208
      1799          Tyr Phe Cys Met Met Thr Glu Ala Glu Gln Asp Lys Trp Gln Ala Va
      1800            1                   5                  10                  15
      1801          Leu Gln Asp Cys Ile Arg His Cys Asn Asn Gly Ile Pro Glu Asp Se
      1802                  20                  25                  30
      1803          Lys Val Glu Gly Pro Ala Phe Thr Asp Ala Ile Arg Met Tyr Arg Gl
      1804                  35                  40                  45
      1805          Ser Lys Glu Leu Tyr Gly Thr Trp Glu Met Leu Cys Gly Asn Glu Va
      1806              50                  55                  60
      1807          Gln Ile Leu Ser Asn Leu Val Met Glu Glu Leu Gly Pro Glu Leu Ly
      1808              65                  70                  75                  8
      1809          Ala Glu Leu Gly Pro Arg Leu Lys Gly Lys Pro Gln Glu Arg Gln Ar
E-->  1810                  85                  90                  95
      1811          Gln Trp Ile Gln Ile Ser Asp Ala Val Tyr His Met Val Tyr Glu Gl
      1812                  100                 105                 110
      1813          Ala Lys Ala Arg Phe Glu Glu Val Leu Ser Lys Val Gln Gln Val Gl
      1814                  115                 120                 125
      1815          Pro Ala Met Gln Ala Val Ile Arg Thr Asp Met Asp Gln Ile Ile Th
      1816              130                 135                 140
      1817          Ser Lys Glu His Leu Ala Ser Lys Ile Arg Ala Phe Ile Leu Pro Ly
      1818          145                 150                 155                 16
      1819          Ala Glu Val Cys Val Arg Asn His Val Gln Pro Tyr Ile Pro Ser Il
E-->  1820                  165                 170                 175
      1821          Leu Glu Ala Leu Met Val Pro Thr Ser Gln Gly Phe Thr Glu Val Ar
      1822                  180                 185                 190
      1823          Asp Val Phe Phe Lys Glu Val Thr Asp Met Asn Leu Asn Val Ile As
      1824                  195                 200                 205
      1825          Glu Gly Gly Ile Asp Lys Leu Gly Glu Tyr Met Glu Lys Leu Ser Ar
      1826              210                 215                 220
      1827          Leu Ala Tyr His Pro Leu Lys Met Gln Ser Cys Tyr Glu Lys Met Gl
      1828          225                 230                 235                 24
      1829          Ser Leu Arg Leu Asp Gly Leu Gln Gln Arg Phe Asp Val Ser Ser Th
E-->  1830                  245                 250                 255
      1831          Ser Val Phe Lys Gln Arg Ala Gln Ile His Met Arg Glu Gln Met As
      1832                  260                 265                 270
```

	1833	Asn	Ala	Val	Tyr	Thr	Phe	Glu	Thr	Leu	Leu	His	Gln	Glu	Leu	Gly	Ly
	1834			275					280					285			
	1835	Gly	Pro	Thr	Lys	Glu	Glu	Leu	Cys	Lys	Ser	Ile	Gln	Arg	Val	Leu	Gl
	1836		290					295					300				
	1837	Arg	Val	Leu	Lys	Lys	Tyr	Asp	Tyr	Asp	Ser	Ser	Ser	Val	Arg	Lys	Ar
	1838	305					310					315					32
	1839	Phe	Phe	Arg	Glu	Ala	Leu	Leu	Gln	Ile	Ser	Ile	Pro	Phe	Leu	Leu	Ly
E-->	**1840**					**325**					**330**					**335**	
	1841	Lys	Leu	Ala	Pro	Thr	Cys	Lys	Ser	Glu	Leu	Pro	Arg	Phe	Gln	Glu	Le
	1842				340					345					350		
	1843	Ile	Phe	Glu	Asp	Phe	Ala	Arg	Phe	Ile	Leu	Val	Glu	Asn	Thr	Tyr	Gl
	1844			355					360					365			
	1845	Glu	Val	Val	Leu	Gln	Thr	Val	Met	Lys	Asp	Ile	Leu	Gln	Ala	Val	Ly
	1846		370					375					380				
	1847	Glu	Ala	Ala	Val	Gln	Arg	Lys	His	Asn	Leu	Tyr	Arg	Asp	Ser	Met	Va
	1848	385					390					395					40
	1849	Met	His	Asn	Ser	Asp	Pro	Asn	Leu	His	Leu	Leu	Ala	Glu	Gly	Ala	Pr
E-->	**1850**					**405**					**410**					**415**	
	1851	Ile	Asp	Trp	Gly	Glu	Glu	Tyr	Ser	Asn	Ser	Gly	Gly	Gly	Gly	Ser	Pr
	1852				420					425					430		
	1853	Ala	Pro	Ala	Pro	Arg	Ser	Gln	Pro	Pro	Ser	Arg	Lys	Ser	Asp	Gly	Al
	1854			435					440					445			
	1855	Pro	Ser	Arg	Trp	Ser	Leu	Trp	Ser	Arg	Met	Arg	Arg	Trp	Gly	Cys	Pr
	1856		450					455					460				
	1857	Leu	Arg	Leu	Ala	Leu	Ser	His	His	His	Leu	Arg	Pro	Arg	Thr	Val	Se
	1858	465					470					475					48
	1859	Leu	Arg	Ser	Glu	Ala	Cys	Trp	Pro	Lys	Val	Cys	Gly	Leu	Arg	Ala	Pr
E-->	**1860**					**485**					**490**					**495**	
	1861	His	Gln	Pro	Ala	Pro	Cys	Ser	Thr	Gly	Pro	Pro	Leu	Gly	Arg	Val	Pr
	1862				500					505					510		
	1863	Ser	Leu	Arg	Pro	Pro	Pro	Arg	Pro	Pro	Arg	Arg	Leu	Pro	His	Pro	Se
	1864			515					520					525			
	1865	Ser	Ile	Ser	Cys	Leu	Glu	Arg	Leu	Trp	Thr	Leu	Gly	Pro	Pro	Ser	Pr
	1866		530					535					540				
	1867	Ala	Thr	Arg	Arg	Leu	Glu	Ser	Arg	Cys	Pro	Ala	Pro	Ala	Ala	Thr	Pr
	1868	545					550					555					56
	1869	Pro	Ser	Thr	Pro	Pro	Pro	Arg	Thr	Val	Gln	Gly	Cys	Arg	Leu	Ser	Se
E-->	**1870**					**565**					**570**					**575**	
	1871	Arg	Pro	Val	Gly	Pro											
	1872				580												

1873 <210> 209
1874 <211> 466
1875 <212> PRT
1876 <213> homo sapiens
1877 <400> 209

1878	Pro	Gln	Arg	Ala	Ala	Pro	Pro	Pro	His	Pro	Gly	Pro	Gln	Arg	Pro	P
1879	1				5					10					15	
1880	Ala	Trp	Arg	Ala	Val	Ala	Phe	Pro	Arg	Gly	Trp	Leu	Thr	Pro	Gly	C
1881				20					25					30		

RAW SEQUENCE LISTING
PATENT APPLICATION **US/09/646,569**

same

Input Set: **I646569.RAW**

	1882	Trp	Gly	Trp	Ala	Ala	Ala	Pro	Ala	Ala	Val	Ala	Val	Leu	Leu	Ala	Pr
	1883			35					40					45			
	1884	Val	Asp	Gly	Gly	Ala	Leu	Gly	Gln	Gln	Val	Gln	Val	Gly	Val	Ala	Va
	1885		50					55					60				
	1886	Val	His	Asp	His	Ala	Val	Pro	Val	Glu	Val	Val	Leu	Pro	Leu	His	Ar
	1887	65					70					75					8
	1888	Gly	Leu	Leu	His	Ser	Leu	Gln	Asp	Val	Leu	His	Asp	Gly	Leu	Gln	Hi
E-->	**1889**					**85**					**90**					**95**	
	1890	His	Leu	Leu	Val	Arg	Val	Phe	His	Gln	Asp	Glu	Pro	Gly	Lys	Val	Le
	1891				100					105					110		
	1892	Glu	Asp	Gln	Leu	Leu	Glu	Pro	Gly	Gln	Leu	Arg	Leu	Ala	Gly	Arg	Gl
	1893			115					120					125			
	1894	Gln	Leu	Leu	Glu	Gln	Glu	Arg	Asp	Ala	Asp	Leu	Gln	Gln	Arg	Leu	Pr
	1895		130					135					140				
	1896	Glu	Glu	Pro	Leu	Pro	His	Arg	Ala	Ala	Val	Val	Val	Val	Phe	Leu	Gl
	1897	145					150					155					16
	1898	His	Pro	Leu	Gln	Asp	Pro	Leu	Asp	Gly	Leu	Ala	Gln	Leu	Leu	Leu	Gl
E-->	**1899**					**165**					**170**					**175**	
	1900	Gly	Pro	Leu	Pro	Gln	Leu	Leu	Val	Gln	Glu	Gly	Leu	Glu	Arg	Ile	Hi
	1901				180					185					190		
	1902	Gly	Ile	Val	His	Leu	Leu	Pro	His	Val	Asp	Leu	Gly	Ser	Leu	Leu	Gl
	1903			195					200					205			
	1904	His	Gly	Arg	Ala	Gly	His	Ile	Lys	Ser	Leu	Leu	Gln	Pro	Val	Gln	Se
	1905		210					215					220				
	1906	Gln	Arg	Leu	His	Leu	Leu	Ile	Ala	Ala	Leu	His	Leu	Gln	Gly	Val	Va
	1907	225					230					235					24
	1908	Arg	Gln	Pro	Gly	Gln	Leu	Leu	His	Val	Leu	Ala	Gln	Leu	Val	Asn	Al
E-->	**1909**					**245**					**250**					**255**	
	1910	Ala	Leu	Val	Asp	Asp	Val	Gln	Val	His	Val	Arg	Asp	Leu	Leu	Glu	Gl
	1911				260					265					270		
	1912	Asp	Ile	Ser	His	Leu	Ser	Glu	Ala	Leu	Ala	Gly	Gly	Asp	His	Gln	Gl
	1913			275					280					285			
	1914	Leu	Gln	Asp	Gly	Trp	Asp	Val	Gly	Leu	Asp	Met	Val	Pro	His	Ala	Hi
	1915		290					295					300				
	1916	Leu	Cys	Leu	Gly	Glu	Asp	Glu	Gly	Ser	Asp	Leu	Ala	Gly	Lys	Val	Le
	1917	305					310					315					32
	1918	Leu	Gly	Gly	Asp	Asn	Leu	Val	His	Val	Ser	Ser	Asp	Asp	Gly	Leu	Hi
E-->	**1919**					**325**					**330**					**335**	
	1920	Gly	Arg	Leu	His	Leu	Leu	His	Leu	Gly	Gln	His	Leu	Leu	Glu	Ala	Ar
	1921				340					345					350		
	1922	Leu	Gly	Leu	Leu	Val	His	His	Val	Val	His	Gly	Val	Arg	Asp	Leu	As
	1923			355					360					365			
	1924	Pro	Leu	Pro	Leu	Pro	Leu	Leu	Arg	Phe	Pro	Leu	Gln	Pro	Arg	Ala	Gl
	1925		370					375					380				
	1926	Leu	Cys	Leu	Gln	Leu	Arg	Ala	Gln	Leu	Leu	His	His	Gln	Val	Ala	Gl
	1927	385					390					395					40
	1928	Asp	Leu	His	Leu	Val	Pro	Thr	Gln	His	Leu	Pro	Gly	Ala	Val	Gln	Le
E-->	**1929**					**405**					**410**					**415**	
	1930	Leu	Gly	Leu	Ser	Val	His	Ala	Asp	Gly	Ile	Cys	Glu	Arg	Arg	Ala	Le
	1931				420					425					430		

1932	Tyr	Leu	Gly	Val	Leu	Arg	Asp	Ser	Ile	Val	Ala	Val	Pro	Asp	Ala	Va
1933			435					440					445			
1934	Leu	Gln	His	Ser	Leu	Pro	Leu	Val	Leu	Leu	Gly	Phe	Cys	His	His	Al
1935		450					455					460				
1936	Glu	Val														
1937	465															

VERIFICATION SUMMARY
PATENT APPLICATION **US/09/646,569**

DATE: 12/14/2000
TIME: 09:51:07

Input Set: **I646569.RAW**

Line	?	Error/Warning	Original Text
23	E	Invalid/Missing Amino Acid Numbering	85
33	E	Invalid/Missing Amino Acid Numbering	165
43	E	Invalid/Missing Amino Acid Numbering	245
53	E	Invalid/Missing Amino Acid Numbering	325
74	E	Invalid/Missing Amino Acid Numbering	85
95	E	Invalid/Missing Amino Acid Numbering	85
105	E	Invalid/Missing Amino Acid Numbering	165
115	E	Invalid/Missing Amino Acid Numbering	245
125	E	Invalid/Missing Amino Acid Numbering	325
135	E	Invalid/Missing Amino Acid Numbering	405
152	E	Invalid/Missing Amino Acid Numbering	85
162	E	Invalid/Missing Amino Acid Numbering	165
172	E	Invalid/Missing Amino Acid Numbering	245
197	E	Invalid/Missing Amino Acid Numbering	85
207	E	Invalid/Missing Amino Acid Numbering	165
228	E	Invalid/Missing Amino Acid Numbering	85
238	E	Invalid/Missing Amino Acid Numbering	165
248	E	Invalid/Missing Amino Acid Numbering	245
265	E	Invalid/Missing Amino Acid Numbering	85
275	E	Invalid/Missing Amino Acid Numbering	165
294	E	Invalid/Missing Amino Acid Numbering	85
304	E	Invalid/Missing Amino Acid Numbering	165
314	E	Invalid/Missing Amino Acid Numbering	245
337	E	Invalid/Missing Amino Acid Numbering	85
355	E	Invalid/Missing Amino Acid Numbering	85
376	E	Invalid/Missing Amino Acid Numbering	85
401	E	Invalid/Missing Amino Acid Numbering	85
411	E	Invalid/Missing Amino Acid Numbering	165
432	E	Invalid/Missing Amino Acid Numbering	85
457	E	Invalid/Missing Amino Acid Numbering	85
474	E	Invalid/Missing Amino Acid Numbering	85
484	E	Invalid/Missing Amino Acid Numbering	165
494	E	Invalid/Missing Amino Acid Numbering	245
504	E	Invalid/Missing Amino Acid Numbering	325
514	E	Invalid/Missing Amino Acid Numbering	405
539	E	Invalid/Missing Amino Acid Numbering	85
556	E	Invalid/Missing Amino Acid Numbering	85
566	E	Invalid/Missing Amino Acid Numbering	165
576	E	Invalid/Missing Amino Acid Numbering	245
602	E	Invalid/Missing Amino Acid Numbering	85
627	E	Invalid/Missing Amino Acid Numbering	85
650	E	Invalid/Missing Amino Acid Numbering	85
660	E	Invalid/Missing Amino Acid Numbering	165
680	E	Invalid/Missing Amino Acid Numbering	85
690	E	Invalid/Missing Amino Acid Numbering	165
700	E	Invalid/Missing Amino Acid Numbering	245
717	E	Invalid/Missing Amino Acid Numbering	85
727	E	Invalid/Missing Amino Acid Numbering	165
750	E	Invalid/Missing Amino Acid Numbering	85
767	E	Invalid/Missing Amino Acid Numbering	85

VERIFICATION SUMMARY
PATENT APPLICATION **US/09/646,569**

DATE: 12/14/2000
TIME: 09:51:07

Input Set: **I646569.RAW**

Line	?	Error/Warning	Original Text
777	E	Invalid/Missing Amino Acid Numbering	165
787	E	Invalid/Missing Amino Acid Numbering	245
797	E	Invalid/Missing Amino Acid Numbering	325
818	E	Invalid/Missing Amino Acid Numbering	85
837	E	Invalid/Missing Amino Acid Numbering	85
847	E	Invalid/Missing Amino Acid Numbering	165
857	E	Invalid/Missing Amino Acid Numbering	245
874	E	Invalid/Missing Amino Acid Numbering	85
884	E	Invalid/Missing Amino Acid Numbering	165
903	E	Invalid/Missing Amino Acid Numbering	85
913	E	Invalid/Missing Amino Acid Numbering	165
938	E	Invalid/Missing Amino Acid Numbering	85
948	E	Invalid/Missing Amino Acid Numbering	165
958	E	Invalid/Missing Amino Acid Numbering	245
968	E	Invalid/Missing Amino Acid Numbering	325
991	E	Invalid/Missing Amino Acid Numbering	85
1009	E	Invalid/Missing Amino Acid Numbering	85
1019	E	Invalid/Missing Amino Acid Numbering	165
1036	E	Invalid/Missing Amino Acid Numbering	85
1055	E	Invalid/Missing Amino Acid Numbering	85
1080	E	Invalid/Missing Amino Acid Numbering	85
1090	E	Invalid/Missing Amino Acid Numbering	165
1100	E	Invalid/Missing Amino Acid Numbering	245
1119	E	Invalid/Missing Amino Acid Numbering	85
1129	E	Invalid/Missing Amino Acid Numbering	165
1139	E	Invalid/Missing Amino Acid Numbering	245
1149	E	Invalid/Missing Amino Acid Numbering	325
1159	E	Invalid/Missing Amino Acid Numbering	405
1184	E	Invalid/Missing Amino Acid Numbering	85
1194	E	Invalid/Missing Amino Acid Numbering	165
1204	E	Invalid/Missing Amino Acid Numbering	245
1225	E	Invalid/Missing Amino Acid Numbering	85
1246	E	Invalid/Missing Amino Acid Numbering	85
1269	E	Invalid/Missing Amino Acid Numbering	85
1289	E	Invalid/Missing Amino Acid Numbering	85
1307	E	Invalid/Missing Amino Acid Numbering	85
1317	E	Invalid/Missing Amino Acid Numbering	165
1327	E	Invalid/Missing Amino Acid Numbering	245
1337	E	Invalid/Missing Amino Acid Numbering	325
1347	E	Invalid/Missing Amino Acid Numbering	405
1368	E	Invalid/Missing Amino Acid Numbering	85
1378	E	Invalid/Missing Amino Acid Numbering	165
1388	E	Invalid/Missing Amino Acid Numbering	245
1398	E	Invalid/Missing Amino Acid Numbering	325
1415	E	Invalid/Missing Amino Acid Numbering	85
1425	E	Invalid/Missing Amino Acid Numbering	165
1448	E	Invalid/Missing Amino Acid Numbering	85
1458	E	Invalid/Missing Amino Acid Numbering	165
1468	E	Invalid/Missing Amino Acid Numbering	245
1491	E	Invalid/Missing Amino Acid Numbering	85

VERIFICATION SUMMARY
PATENT APPLICATION **US/09/646,569**

DATE: 12/14/2000
TIME: 09:51:07

Input Set: **I646569.RAW**

Line	?	Error/Warning	Original Text
1508	E	Invalid/Missing Amino Acid Numbering	85
1518	E	Invalid/Missing Amino Acid Numbering	165
1528	E	Invalid/Missing Amino Acid Numbering	245
1545	E	Invalid/Missing Amino Acid Numbering	85
1570	E	Invalid/Missing Amino Acid Numbering	85
1593	E	Invalid/Missing Amino Acid Numbering	85
1616	E	Invalid/Missing Amino Acid Numbering	85
1626	E	Invalid/Missing Amino Acid Numbering	165
1645	E	Invalid/Missing Amino Acid Numbering	85
1646	E	Wrong Amino Acid Designator	Xxx
1663	E	Invalid/Missing Amino Acid Numbering	85
1673	E	Invalid/Missing Amino Acid Numbering	165
1683	E	Invalid/Missing Amino Acid Numbering	245
1700	E	Invalid/Missing Amino Acid Numbering	85
1719	E	Invalid/Missing Amino Acid Numbering	85
1736	E	Invalid/Missing Amino Acid Numbering	85
1756	E	Invalid/Missing Amino Acid Numbering	85
1766	E	Invalid/Missing Amino Acid Numbering	165
1791	E	Invalid/Missing Amino Acid Numbering	85
1810	E	Invalid/Missing Amino Acid Numbering	85
1820	E	Invalid/Missing Amino Acid Numbering	165
1830	E	Invalid/Missing Amino Acid Numbering	245
1840	E	Invalid/Missing Amino Acid Numbering	325
1850	E	Invalid/Missing Amino Acid Numbering	405
1860	E	Invalid/Missing Amino Acid Numbering	485
1870	E	Invalid/Missing Amino Acid Numbering	565
1889	E	Invalid/Missing Amino Acid Numbering	85
1899	E	Invalid/Missing Amino Acid Numbering	165
1909	E	Invalid/Missing Amino Acid Numbering	245
1919	E	Invalid/Missing Amino Acid Numbering	325
1929	E	Invalid/Missing Amino Acid Numbering	405